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THESIS

MISSING THE MARK: IS ICS TRAINING ACHIEVING ITS GOAL?

by

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December 2016

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13. ABSTRACT (maximum 200 words)

The Incident Command System (ICS) was originally adopted in the 1970s as a fire service emergency management system. Following the events on September 11, 2001, the National Response Plan adopted ICS across all hazards and disciplines in order to unite responders under the same management system during emergencies. However, creating one system to service so many disparate agencies and response types was a massive undertaking, and the system's effectiveness has since been questioned.

To operate in ICS, responders must engage in the adult learning process, which requires social interaction with an engaged instructor and active peers. Before the system can be judged properly, we must ensure personnel have been trained and are implementing the system adequately.

This thesis examines the adult learning process and the keys to ensuring that learning and behavior change actually occur. It further examines ICS courses' current online delivery system and recommends evaluating this system to engage the social learning required for successful cultural change. The thesis also critiques the ICS training measurement method and recommends changes to better measure system learning and utilization.

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

AHIMT	All-Hazard Incident Management Team
AHIMTA	All-Hazard Incident Management Team Association
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CCIO	Command and Control of Incident Operations
CEU	Continuing Education Unit
DHS	Department of Homeland Security
EMI	Emergency Management Institute
EMS	Emergency Medical Services
FEMA	Federal Emergency Management Agency
FIRESCOPE	Firefighting Resources of California Organized for Potential Emergencies
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
IMT	Incident Management Team
MAC	Multi-agency Coordination Center or Group
NEMSIS	National Emergency Medical Services Information System
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NIMSCAST	NIMS Compliance Assistance Support Tool
NWCG	National Wildland Coordination Group
UCR	Uniform Crime Reporting
USFA	United States Fire Administration

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EXECUTIVE SUMMARY

The Incident Command System (ICS) was designed in the 1970s to handle large-scale incidents, with its first incarnation developed to battle wildfires in California. The National Wildland Coordinating Group remains a staunch example of the system's ability to effectively handle large-scale incidents. The Phoenix Fire Department saw the advantages of ICS and modified ICS to be used on smaller-scale incidents in a program known as Fire Command.

After 9/11, presidential executive orders created the National Incident Management System (NIMS), which incorporated ICS as one of its key components. The intent was to unite all responders under a single command system that has been proven effective, and to modify the system to handle all large-scale or complex disasters. Over a decade after President George W. Bush's Homeland Security Presidential Directive 5 declared NIMS and ICS as the unifying programs for incident management, there remains debate over how ICS should be implemented and if it is, indeed, the all-hazard management system it is purported to be. Before the system's effectiveness can be judged, however,, we must first determine if responders understand the system and are implementing it properly.

A.   PROBLEM STATEMENT

Fire, emergency medical services (EMS), and law enforcement respond to and mitigate emergencies across this nation daily in a quick and efficient manner. However, they may encounter incidents that exceed their normal scope of practice and will require coordination across different agencies and disciplines. The ICS system is intended to cover the entire response process, from the initial incident until ultimate its resolution. When initial incident leaders are tasked with managing an incident they may not have the resources to address, they are expected to begin incident command as best as they can until higher-level units arrive. There is confusion, however, about which ICS steps and components should be implemented at the early stages, and how they should be implemented. First responders find it difficult to understand the ICS system and the role

they play within it, particularly during chaotic incidents. But why is this occurring? Furthermore, if we can identify the root cause of this issue, can we identify strategies to correct it?

B.   ANALYSIS

This thesis considers why responders need a common emergency management system and why some organizations and key personnel are struggling to understand, accept, and implement these systems. To do so, the research examines the adult education mechanisms and the elements necessary for learning as well as behavioral and cultural change. By evaluating the current measurement methods in place for NIMS/ICS, the thesis questions if the level and method of training currently offered in ICS are achieving their compliance goal. The research further explores the social element necessary for adult education and analyzes if ICS' current online delivery training platform is engaging this crucial element. It also considers the measurements of success utilized to see if training goals are met.

C.   RECOMMENDATIONS

Based on the evidence collected, this thesis makes the following recommendations:

- The nation has determined that the overall incident management structure for all responses will be ICS, and emergency responders must understand the commitment they have made to their agency, local populace, and the nation to understand and operate in this system. This means more than simply achieving a certificate and NIMS compliance on paper—training must help responders understand how they fit into the ICS system.

- NIMS/ICS must continue to recognize and maintain its flexibility to be considered a viable tool for all-discipline and all-hazard responses.

- In order to be effective, the training must incorporate the social interaction critical to adult learning and referenced in the ICS training guidance. The current static online courses do not engage peer collaboration. The Federal Emergency Management Agency (FEMA) should give serious consideration to reevaluating the delivery methods of these courses and adjusting the format to create dynamic environments that engage live instructors and peer interaction.

D.   CONCLUSIONS

In a nation with such diverse governmental and non-governmental resources, getting every responder on the same page is an ambitious goal. For ICS to remain viable for all responders to address all hazards, it has to remain a flexible tool that all stakeholders understand and can efficiently incorporate. Emergency responders must make the commitment to take the appropriate training and understand the tool effectively, which may require significant time and dedication to advanced ICS training and certification.

Furthermore, the training must incorporate key elements necessary for adult learning and engage the learners in a collaborative environment, even if completed in an online platform. More dynamic measures of student learning and system implementation must be incorporated to better understand and affect the necessary system changes. The training should be evaluated and updated as a result of these observations.

There is value in ICS, but only if all responders understand the system and their role in the system. The first step in achieving this level of cohesion is an effective training program. This thesis attempts to provide guidance to restructure the current training program in order to build a more effective delivery platform.

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I.   INTRODUCTION

> On September 11, 2001, America felt its vulnerability even to threats that gather on the other side of the Earth. We resolved then, and we are resolved today, to confront every threat from any source that could bring sudden terror and suffering to America.
>
> —George W. Bush

A.   A PREPARED NATION AND THE ADOPTION OF NIMS/ICS

One of the earliest documents supporting the construct of the United States' emergency preparedness was Section 602 of the Stafford Act, which defines preparedness as "activities and measures designed or undertaken … to deal with the immediate conditions which would be created by the hazard."[1] In his 2011 Presidential Policy Directive 8, President Barack Obama stated that "our national preparedness is the shared responsibility of all levels of government. … Everyone can contribute to safeguarding the Nation from harm."[2] Together, these two historic documents indicate that achieving and maintaining a prepared nation involves all levels of government and includes all stakeholders working together in a common effort to plan, respond to, and mitigate all disastrous events in an orderly fashion. This concept of all levels of government working together within a common system is the basis of the original National Incident Management System (NIMS) framework, which guides all stakeholders "to work together seamlessly and manage incidents involving all threats and hazards."[3] "Preparedness," it further declares, "is a continuous process."[4]

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[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 3-288, as amended, 42 U.S.C. 5121 et seq.

[2] "Presidential Policy Directive/PPD-8: National Preparedness," Department of Homeland Security, last modified September 23, 2015, https://www.dhs.gov/presidential-policy-directive-8-national-preparedness.

[3] "The National Incident Management System," FEMA, accessed August 18, 2015, http://www.fema.gov/national-incident-management-system.

[4] Ibid.

What role do all the stakeholders play in achieving this definition, and how is its success measured? More importantly, what role do the key programs play in achieving this goal? At the heart of these programs are NIMS and the Incident Command System (ICS). Over a decade after President George Bush's Homeland Security Presidential Directive 5 declared NIMS and ICS as the unifying programs for incident management, there remains debate about how ICS should be implemented and if it is, indeed, the all-hazard management system it is purported to be.[5]

Following the events of September 11, 2001, the U.S. Department of Homeland Security (DHS) was formed as the lead agency for homeland security at the federal level.[6] Immediately, questions arose regarding the true level of responsibility given to this agency.[7] The roles different levels of government play in homeland security activities change depending on the nature and location of the incident. Even with significant events on American soil, it is most likely not DHS' primary responsibility to play the lead agency. Outlined within its own training program, NIMS guidance clearly indicates: "A basic premise of NIMS is that all incidents begin and end locally."[8] The RAND Corporation echoed these comments in testimony to Congress outlining the critical role first responders at the local level play in responding to and ultimately mitigating large-scale events.[9]

Existing guidance documents recognize that not only are first responders truly the first on the scene, they are also in a unique position to understand the individual characteristics of the areas affected and the response and resources available and needed

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[5] "Homeland Security Presidential Directive 5," Department of Homeland Security, February 28, 2003, https://www.dhs.gov/publication/homeland-security-presidential-directive-5#.

[6] "Creation of the Department of Homeland Security," Department of Homeland Security, last modified September 24, 2015, https://www.dhs.gov/creation-department-homeland-security.

[7] Thomas Goss, "'Who's in Charge?' New Challenges in Homeland Defense and Security," *Homeland Security Affairs* II, no. 1 (2006).

[8] Department of Homeland Security, *National Incident Management System Training Program* (Washington, DC: FEMA, 2011), 2.

[9] *Applying Lessons Learned from Past Response Operations to Strengthening National Preparedness*, House Homeland Security Committee (testimony of Brian A. Jackson, presented on behalf of RAND Corporation, June 18, 2014).

for ultimate resolution.[10] An attempt by the federal government (or any one agency) to provide a single-source solution for every incident in every locale would present a very complicated problem. The responsibility of the federal government should remain to build a national response system that effectively supports first responders' efforts, but that does so within a flexible framework that guides efforts—not within a rigid set of rules that ignores diversity.[11] A large portion of the responsibility for incident resolution remains with the local responders, with support from the federal government.[12]

B.   RESEARCH QUESTIONS

In an effort to determine if ICS is executing its current strategy to achieve preparedness and organized response, this thesis examines the following issues.

(1)   Do first responders find it difficult to implement and understand ICS during the first operational period?

This study focuses on incidents that exceed local responders' resources and capabilities, specifically during the first operational period. The first tactical operations begin when the first resources arrive on scene and mitigation begins.[13] To ultimately resolve the incident, local responders may need to employ other levels of government and responders from other agencies and disciplines.[14] The NIMS/ICS goal is it to create and maintain an organized structure from incident initiation through incident termination and recovery on a nationally taught and recognized platform.[15] The first concern of this study was to determine if the goal of creating a universally used and understood management system is occurring as desired and intended.

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[10] Ibid.

[11] Jackson, *Applying Lessons Learned*, 6.

[12] Ibid.

[13] FEMA, *ICS-400: Advanced ICS for Command and General Staff, Student Manual* (Washington, DC: Department of Homeland Security, 2011), 2.21.

[14] Department of Homeland Security, "National Incident Management System," (National Engagement Draft posted May 2016), 10–11.

[15] Department of Homeland Security, *NIMS Training Program*, 1–2.

(2) If first responders are struggling to implement ICS properly during the first operational period, why is this occurring?

ICS was designed to give first responders a structured system to organize response during large or complex incidents.[16] Cognitive research indicates that, when faced with complex tasks, the executive portion of the brain can only process two to three tasks effectively at a time.[17] Situational limited cognitive abilities underscore the need for emergency responders to adopt and train in pre-organized systems, such as ICS, to help personnel manage their tasks efficiently in stressful situations.

NIMS compliance requires first responders to take ICS training.[18] Depending on responder's rank and responsibilities, he or she is advised to take 100-level basic ICS at minimum to 400-level advanced ICS at maximum.[19] Advanced practitioners will take position-specific courses, which can last for sixteen to forty hours just to train for one specific position within the ICS system.[20] The goal of these training programs is to prepare responders to implement and escalate ICS as needed throughout the incident.[21]

Training in ICS is part of the equation, but it is only one component of the overall system. ICS is the tool utilized to organize the team, but they tool must be understood and applied properly in order to work.[22] This thesis considers several reasons why ICS is not being implemented, including lack of organizational acceptance, confusion in training implementation, failure of the training itself, improper system implementation, and inappropriateness of the system itself.

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[16] FEMA, United States Fire Administration (USFA), and National Fire Academy (NFA), *Incident Command System: Student Manual* (Champaign: University of Illinois at Urbana-Champaign, 1999), 1.3–5.

[17] Joseph LeDoux, *Synaptic Self: How Our Brains Become Who We Are* (New York: Viking Penguin, 2002), 178–179

[18] Department of Homeland Security, *NIMS Training Program*, 1–2.

[19] Ibid., 17–18.

[20] Ibid., 43–57.

[21] Ibid., 1–2.

[22] FEMA, *Introduction to the Incident Command System (ICS-100): Instructor Guide* (Washington, DC: Department of Homeland Security, 2013).

(3)   If we can identify the root cause of this issue, can we identify strategies to correct it?

Does the solution involve correcting the system, updating the training curriculum, identifying sources of agency adoption, or identifying another system—other than ICS—for incident management? Does the solution differ for large agencies that are flush with resources than for smaller or rural agencies that operate with limited resources?

C.   PROBLEM STATEMENT

Fire, emergency medical services (EMS), and law enforcement respond to and mitigate emergencies across this nation daily in a quick and efficient manner. However, they may encounter incidents that exceed their normal scope of practice and initial conditions may be chaotic.[23] The incident can be an act of violence, a natural disaster such as a flood or tornado, or a man-made disaster such as a derailment or chemical spill. One officer, crew, or department cannot fix these problems alone or by regular methods.[24] They require coordination across different agencies and disciplines. Moreover, complete incident resolution and recovery cannot, and will not, be achieved in less than twenty-four hours.

The ICS system is intended to cover the entire response process, from the initial incident until its resolution.[25] Initial units are meant to arrive, begin mitigation, and organize the event under the ICS construct.[26] If the incident exceeds the initial responders' scope, the initial incident managers bring additional help (all the way to the federal level) until the incident is stabilized.[27] The courses teach that, as the incident escalates in size and complexity, ICS should be subsequently expanded.[28]

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[23] Department of Homeland Security, "National Incident Management System Refresh: Review Package," (working draft) (Washington, DC: Department of Homeland Security, May 2016), 1.

[24] Ibid., 16; Edward Deverell, "Investigating the Roots of Crisis Management Studies and Outlining Future Trajectories for the Field," *Journal of Homeland Security and Emergency Management* 9, no. 1 (2012): 4.

[25] FEMA, *Introduction to the Incident Command System (ICS-100)*, 3.6–7.

[26] Department of Homeland Security, "National Incident Management System Refresh," 10–14.

[27] FEMA, *ICS-400 Student Manual*, 3.3.

[28] FEMA, *ICS for Single Resource and Initial Action Incidents (ICS-200): Instructor Guide* (Washington, DC: Department of Homeland Security, 2013), 2.37.

In some events (such as tornados), however, the incident is not going to expand in size. When initial responders first arrive at the scene, the incident is already at the catastrophic level and it will not gradually escalate. The initial incident leaders could be tasked with managing an incident they do not have the resources to address. They are expected to begin incident command as best as they can until higher-level units arrive.[29] During these responses it is key for incident commanders to gradually expand their incident management structure in an organized manner as resources become available.[30] Is it understood what steps and components of ICS should be implemented at this stage of the incident and how they should be implemented? And is this occurring?

Large-scale, chaotic incidents rely upon mutual aid units from other departments, cities, counties, regions, and perhaps even states.[31] It is for this reason that NIMS and ICS was created—when these resources arrive, they all operate under one common framework.[32] But does this framework efficiently achieve its desired goal? Is it understood by all responders of all disciplines? And is it appropriate for all response scenarios?

D.   METHODOLOGY

While ICS has seen some success in emergency response, there still remains confusion and resistance, particularly from disciplines outside the fire service, where ICS originated. To determine the cause, root cause analysis was used as the research design for this thesis. The five analysis steps are introduced in this section

1.   Define the Problem

Homeland Security Presidential Directive Number 5 required all emergency response agencies to adopt NIMS.[33] The M in NIMS stands for management; one of NIMS' critical components is that emergency service leaders must adopt ICS as their

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[29] Ibid., 7.5.

[30] Ibid., 2.39–40.

[31] Department of Homeland Security, "National Incident Management System Refresh," 10–11.

[32] Ibid., 3.

[33] "Homeland Security Presidential Directive 5," Department of Homeland Security.

management system.[34] The result was the rapid development of the Emergency Management Institute (EMI) and Federal Emergency Management Agency (FEMA) ICS training system, which included training through ICS 100 and 200 online, and ICS 300 and 400 in regional classrooms.[35] These courses were designed to prepare local and regional responders for incidents at the local level until resolution or the arrival of an incident management team.[36] Now, a decade after these initial NIMS-compliant ICS trainings were implemented, there are officially adopted courses for upper-level ICS training.[37] Although ICS should be more refined and widely accepted now that it has matured and advanced, there still remain several opponents and supporting literature that argues ICS has not been proven effective, and therefore has not been accepted as a successful and appropriate system.[38] This thesis systematically analyzes why universal acceptance of ICS is not occurring.

2. Collect Data

To collect data, the researcher reviewed literature, closely examined both the historic ICS training curriculum and current NIMS ICS training, and analyzed results from NIMS integration center's open comment period.

In order to observe the nature and scope of the problem, the literature review began with two previously published Naval Postgraduate School theses that specifically address ICS shortcomings during the initial operational period. Cynthia Renaud, commander of the Long Beach Police Department, examined the initial response to the 9/11 terrorist attack at the Pentagon by affected military personnel, and noted that responders' actions did not correspond to the roles identified in the ICS command and general staff positions.[39] Although the response did not lead to overall incident

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[34] Department of Homeland Security, "National Incident Management System Refresh," 3.

[35] Department of Homeland Security, *NIMS Training Program*, 2.

[36] Ibid., 7.

[37] Ibid., 43–57.

[38] Sean Hildebrand, "Coerced Confusion? Local Emergency Policy Implementation after September 11," *Homeland Security and Emergency Management* 12, no. 2 (2015): 273–298.

[39] Cynthia Renaud, "Making Sense in the Edge of Chaos: A Framework for Effective Initial Response Efforts to Large-Scale Incidents," (Master's thesis, Naval Postgraduate School, 2010), 79–91.

resolution, the responders' actions were critical to the mission; they saved many lives and contributed positively to overall incident management.[40] Renaud explains:

> Newly assigned to the Pentagon, Navy SEAL Craig Powell also acted to save many lives that day. In one situation, he saw men attempting to build a makeshift staircase so people trapped on the floors above could climb out the windows down to safety. Quickly assessing the situation, he realized there were not enough pieces of furniture to build any kind of structure and the fire was quickly advancing in the room above them. … Powell told all the men on the floor to form a human net and then told the people above to jump into the waiting net. … When Lieutenant General P.K. Carlton arrived on scene … Carlton immediately followed Powell and began to help him.[41]

Assistant Sheriff of the Las Vegas Metropolitan Police Department Theodore Moody's thesis also examined ICS shortcomings. While Moody did not specifically address the first operational period, he did address ICS' overall inappropriateness for law enforcement application during large chaotic incidents, particularly active shooter responses. His analysis of the attack in Mumbai, India, echo Renaud's arguments that individuals in highly charged environments are more effective when performing their standard jobs tasks—as trained to do on a routine basis—as opposed to attempting to implement the ICS system, which they may have limited exposure to on a regular basis.[42] The common thread between Moody and Renaud's theses are the actions of first responders during chaotic incidents; both argue that ICS is not applicable in these situations.

District Chief Andrew Teeter of the Tulsa Fire Department also contributes research to the issues surrounding perceived ICS system challenges.[43] His argument is not against ICS, but rather focuses on the complications that occurred when NIMS mandated that ICS—a formerly fire service–specific tool—be adopted across all response

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[40] Ibid., 91.

[41] Renaud, "Making Sense in the Edge of Chaos," 81.

[42] Theodore, J. Moody, "Filling the Gap between NIMS/ICS and the Law Enforcement Initial Response in the Age of the Urban Jihad," (Master's thesis, Naval Postgraduate School, 2010).

[43] Andrew C. Teeter, "On a Clear Day, You Can See ICS: The Dying Art of Incident Command and the Normal Accident of NIMS—A Policy Analysis," (Master's thesis, Naval Postgraduate School, 2013).

disciplines.[44] Teeter's research ultimately recommends that ICS should be organized only in a "bottom-up" configuration, not "top-down."[45] Renaud, Moody, and Teeter all present valid concerns about the current ICS system and articulate the need for further investigation.

Also important to the data collection is a close review of the available ICS training curricula. These curricula range from the introductory ICS course to advanced-level classes that are required for NIMS compliance, discipline-specific training that exceeds basic ICS training, and position-specific training directed at advanced ICS practitioners who serve on an incident management team (IMT).[46] Curricula are evaluated for intended goals and observed results, and closely examined for discrepancies or contradictions.

3.   Possible Causal Factors

Several possible causal factors are considered for this study:

- Were Moody and Renaud correct in their assertions that ICS is not an appropriate system for all applications and responses?

- As Moody argues, has the ICS system become too complex and overcomplicated?

- Is the ICS training curriculum itself appropriate?

- Have the ICS training goals been realized?

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[44] Ibid., introduction.

[45] Ibid., 80, 83–85.

[46] "IS-100.B: Introduction to Incident Command System, ICS-100," FEMA, accessed November 5, 2015, http://training.fema.gov/is/courseoverview.aspx?code=IS-100.b; FEMA, *ICS-400 Student Manual*, 3.3; "Incident Management Team Professional Development and Training," U.S. Fire Administration (USFA), accessed November 5, 2015, http://www.usfa.fema.gov/training/imt; "NFA Course Catalog," USFA, accessed September 19, 2016, https://apps.usfa.fema.gov/nfacourses/catalog/search?onCampus Long=true&courseCurricula=9&forget=true; "NIMS ICS All-Hazards Position Specific Training Program Official website," FEMA, accessed August 15, 2016, https://training.fema.gov/allhazards/.

4. The Likely Root Cause

The possible causal factor was determined by applying the "5 Whys" technique. This technique was developed by Sakichi Toyoda during the 1930s to gain an in-depth understanding of a problem and determine its root cause.[47] For this thesis, the process began by questioning why there is a need or desire for one incident management system. It then drilled down to determine why the system is failing in some circumstances.

5. Recommend Solutions or Corrective Action

Once the root cause is identified, it is then possible to develop a course of corrective action. In order to address the diverse and complex nature of the American emergency response, ICS has become a complex system. The findings in this thesis are multi-layered and, in turn, led to multi-layered recommendations regarding first responders' responsibility to understand and implement the ICS system. It also recommends a close examination of how the ICS training is implemented and how it can be improved, including improvements to the measuring system that gauges ICS adoption and implementation.

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[47] "5 Whys: Getting to the Root of a Problem Quickly," MindTools, accessed July 27, 2016, https://www.mindtools.com/pages/article/newTMC_5W.htm.

II.   LITERATURE REVIEW

Leadership and management are complex studies and practices.[48] This is no truer than when managers must lead in times of extreme disorder and constantly evolving changes. Controlling chaotic change is critically important "in dynamic systems, ones which change over time, [because] the constant feeding back of changes throughout the system means that the tiniest change in how things start often become hugely magnified over time."[49] The result is a large field of study into chaos and complexity theory, which is significantly more relevant as the world we live in becomes increasingly connected, interactive, and fast paced.[50] Finding new solutions to arising threats and getting organizations to adopt new techniques has been problematic; there are "constant reminders that old ideas are difficult to dislodge even in light of wicked problems" and "decisions made by individuals in organizations are influenced by the values and culture an organization practices."[51]

A.   TRADITIONAL METHOD FAILURES IN DYNAMIC SITUATIONS

In attempts to find solutions, standard practice may be to examine other successful methods, evaluate their strengths, and then attempt to employ them as useful solutions to the problem.[52] Unfortunately, emulating other programs may not be practical in today's environment.

> Our paradigm has been that to forecast you need to measure, to plan and then to control and it used to work. It used to be the right thing to do in a steady, predictable world, but that's not today. Today we live in a critical

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[48] Alexander M. Goulielmos, "Complexity theory: a science where historical accidents matter," *Disaster Prevention and Management, Volume 14, Number 4,* (2005): 537.

[49] Jonathan Wilson, "Winning through Chaos," *Credit Control* 20, no. 4, (1999): 28.

[50] Ibid., 29.

[51] Heather Davis, "Social Complexity Theory for Sense Seeking: Unearthing Leadership Mindsets for Unknowable and Uncertain Times," *Emergence: Complexity and Organization* 17, no. 1 (March 2015), 1–20; Kenneth Goldberg, "Mitigating Unintended Consequences during Crises: Improving the Decision-Making Process," *Journal of Behavioral Studies in Business* 25, no. 2 (2013): 2.

[52] Philip Anderson, "Perspective: Complexity Theory and Organizational Science," *Organizational Science* 10, no. 3, (1999): 226, doi: 10.1287/orsc.10.3.216.

state of unpredictability. You cannot measure accurately enough to forecast meaningfully.[53]

Changing the dynamic is not easy in traditionally hierarchal organizations, and "shifting the focus to strategic thinking requires a considerable change in culture."[54] Understanding the "underlying assumptions (values and shared vision) of an organization" is important to understanding that organization's decision-making during a crisis.[55] There is also concern with allowing agencies the freedom to pursue opportunities while balancing responsibilities and limiting risk.[56] However, these concerns do not excuse leaders from pursuing some course of action.

> What we need, therefore, are ways of dealing with that which we cannot calculate, of coping with our ignorance. There is a name for this. It is called "ethics" and no amount of complexity theory will allow us to escape it.[57]

Management must shift from a platform of reserved planning to a system that allows agencies to act and react.[58]

> In environments far from equilibrium, where cascades of change are constantly playing out and overlapping with one another, adaption must be evolved, not planned. Adaption is the passage of an organization through an endless series of organizational microstates that emerge from local interactions among agents trying to improve their local payoffs.[59]

In order to understand decisions made during crisis, we must study organizational systems and how they react to internal and external forces.[60] To do so, we must combine traditional models and develop new models for organizations to utilize during

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[53] Wilson, "Winning through Chaos," 30.

[54] Davis, "Social Complexity Theory."

[55] Goldberg, "Mitigating Unintended Consequences," 3.

[56] Rob Preston, "Manage Risk, but Don't Become Paralyzed by it," *Information Week*, no. 1152, (2007): 84.

[57] Paul Cilliers, "Complexity, Deconstruction, and Relativism," *Theory, Culture & Society* 22, no. 5, (October 2005): 83, doi: 10.1177/026327640508052.

[58] Davis, "Social Complexity Theory."

[59] Anderson, "Perspective," 228.

[60] Goldberg, "Mitigating Unintended Consequences," 2.

emergencies.[61] Organizations must also find ways to actively engage their personnel, as participation is directly related to overcoming resistance to change.[62]

B.   NEW MANAGEMENT IDEAS

In a desire to "move from planning to learning and imagining," it has been found that "single business units achieve rapid evolutionary progress through improvisational moves based upon a few rules, responsibilities, goals, and measures."[63] Flexible systems are desired that allow for freedom to operate; "too much control represses possibilities."[64] Problems can have more than one solution and unpredictable outcomes.[65] There may not be one clear way to reach the outcome and independent thought may become as important as traditional teamwork.

> When there is not a single optimum, one may wish to encourage search behavior. This can be accomplished by making actors more interdependent with one another in search of a common goal—for example, by forming them into cross-functional team or requiring tighter synchronization among their actions.[66]

As a result of uncertain environments, new management models shift from the traditional model of ample preparation to a model in which some planning is conducted, but then quick action is needed.[67] Afterward, the actions are examined and refined to determine a better course.[68] Leadership and management on the front lines may require creative deviance; after all, "progress often demands new ideas and innovation."[69] This

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[61] Ibid.

[62] Lester Coch and John R. P. French, Jr., *Human Relations* (New York: Plenum Publishing Company, 1948) 512–532, as it appears in Walter E. Natemeyer and J. Timothy McMahon, *Classics of Organizational Behavior,* 3rd Edition (Long Grove, IL: Waveland Press, 2001), 427.

[63] Wilson, "Winning through Chaos," 32; Anderson, "Perspective," 228.

[64] Wilson, "Winning through Chaos," 27.

[65] Goulielmos, "Complexity Theory," 537.

[66] Philip Anderson et al., "Introduction to the Special Issue: Applications of Complexity Theory to Organizational Science," *Organizational Scienc*e 10, no. 3, (1999): 234.

[67] Davis, "Social Complexity Theory."

[68] Ibid.

[69] Ronald A. Heifetz, *Leadership without Easy Answers* (Cambridge, MA: Harvard University Press, 1994), 187.

style of leadership will likely require a completely different architecture than traditional models.

> The new management logic also requires internal processes that facilitate all kinds of emergent processes as self-generated sources of dissipative energy, such as improvisation, product champions, and emergent strategies. In addition, the new management logic requires openness to bottom-up processes and acceptance of effective equifinal outcomes. Finally, the new management logic also requires leadership styles that moderate dysfunctional tension and forestall the emergence of chaos.[70]

Understanding and reorganizing operational systems is a balancing act; the system must uphold organization cultures and values, remain transparent and culpable to the stakeholders, and minimize unintended consequences while maximizing results.[71] Classic leadership responsibility is to find this balance and establish effective goals for the organization.[72] Then, leaders have the obligation to provide all the tools their personnel need to exceed.[73]

C.   ADULT LEARNING

If designing and restructuring management and leadership models sounds daunting, it is even more daunting to train leaders, managers, and stakeholders to understand and operate in these systems.[74] To do so, the training must be ongoing and as dynamic as the systems themselves.[75]

> In times marked by complexity, turbulence and epochal shifts, alternative sense seeking models and languages that encourage rapprochement of economic, environmental and human sustainability are necessary. In this

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[70] Arie Y. Lewin, "Application of Complexity Theory to Organizational Science," *Organizational Science* 10, no. 3, (1999): 215, doi: 10.1287/orsc.10.3.215.

[71] Goldberg, "Mitigating Unintended Consequences," 4.

[72] Heifetz, *Leadership without Easy Answers*, 22.

[73] Pete Luongo, *10 Truths about Leadership…it's Not Just about Winning* (Covington, KY: Clerisy Press, 2007), 55.

[74] Richard Baldwin, "Training for the Management of Major Emergencies," *Disaster Prevention Management: An International Journal* 3, no. 1, (1994): 18–23.

[75] Davis, "Social Complexity Theory."

regard learning, unlearning, and relearning become key components for this intentional work.[76]

Many adult education goals aim to equip learners with the tools to critically evaluate and reflect upon their surroundings and to empower them to transform their surroundings.[77]

Several roadblocks inhibit adult learning goals.[78] Among these is the learner's desire to know the reason why learning is occurring, student ego and hubris, the learner's apprehension to material from unknown or untrusted sources, and unclear objectives.[79] Equally important to achieving adult learning goals is holding the learners accountable for learning, removing workplace distractions, and involving coaching and feedback.[80] Dialogue and reflection are important components of adult learning, but it is also important to keep the agency or individual's regional, local, or organizational culture in mind.[81] "Unlike other influences, the impact of culture is always ingrained and indirect, and will take a longer time to modify or change."[82]

Research has shown that equally critical components of adult learning are the social learning environment and interactions, and a basic understanding of the simple concept mechanics.[83] Interaction aids critical reflection, which "is an essential process for new learning that takes an experience or experiences as its starting point. These experiences are imbued with emotion."[84] MRI imaging reveals that the portion of the

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[76] Ibid., 8.

[77] Rachel Percy, "The Contribution of Transformative Learning Theory to the Practice of Participatory Research and Extension: Theoretical Reflections," *Agriculture and Human Values* 22 (2005): 127, doi: 10.1007/s10460-004-8273-1.

[78] Clinton Longenecker and Rob Abernathy, "The Eight Imperatives of Effective Adult Learning: Designing, Implementing and Assessing Experiences in the Modern Workplace," *Human Resource Management International Digest* 21, no. 7 (2013): 31, doi: 10.1108/HRMID-10-2013-0090.

[79] Ibid., 31–32.

[80] Ibid., 32.

[81] Percy, "The Contribution of Transformative Learning," 129.

[82] Wu Bing and Teoh Ai Ping, "A Comparative Analysis of Learners Interaction in the Online Learning Management Systems: Does National Culture Matter?" *Asian Association of Open Universities Journal* 3, no. 1 (2008): 13.

[83] Nicholas Clarke, "Emotional Intelligence and Learning in Teams," *Journal of Workplace Learning* 22, no. 3, (2010): 127, doi: 10.1108/13665621011028594.

[84] Ibid., 135.

human brain responsible for reactions can "undergo emotional learning to stimuli that are never experienced."[85] In order to challenge previously held assumptions and realize transformative learning, deeper, more meaningful emotional conflict must be experienced and resolved as part of the learning process.[86] Social interaction has the most powerful impact when trying to change individual behavior and adopt new behaviors.[87]

Learning in groups is a critical component to this process. Rather than simply reviewing content, the student must engage with his instructors and peers.[88] First, it is necessary to observe how individuals interact with team members—the degree of relational ties between team members directly influences quality of knowledge exchange.[89] This interaction may not always be positive for the learner; in fact, negative team experiences often lead to deeper, behavior-changing learning.[90] Emotional awareness is also important for "problem analysis, theorizing cause and affect relationships, and action planning."[91] Training emergency responders to deal with disasters heightens the need to observe and understand emotional states.[92]

> Training for major emergencies takes on a new dimension. Not only do personnel have to be trained in the plans and the procedures that are developed for their own operation, but they have to be able to handle themselves in such a way that they are adequately prepared to be put under tremendous strain and stress during the response and, indeed, for colleagues around them to be able to recognize when that stress is affecting their performance to such an extent that they should be relieved of their position.[93]

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[85] LeDoux, *Synaptic Self*, 219.

[86] Clarke, "Emotional Intelligence," 128.

[87] Santiago Rincón-Gallardo and Michael Fullan, "Essential Features of Effective Networks in Education," *Journal of Professional Capital and Community* 1, no. 1 (2016): 16.

[88] Ping, Teoh Ai, "Students' Interaction in the Online Learning Management Systems: A Comparative Study of Undergraduate and Postgraduate Courses," *Asian Association of Open Universities Journal, Volume 6 Issue 1* (2011): 69.

[89] Clarke, "Emotional Intelligence," 128.

[90] Ibid., 137.

[91] Ibid., 135.

[92] Baldwin, "Training for Management," 18.

[93] Ibid.

Moreover, learning in groups engages the group dynamic.[94] Group learning environments expose students to leadership styles that may be considered different or aloof, but that can reveal more creative solutions to standard problems.[95] The learners also often engage different emotions while navigating the prevailing group atmosphere.[96]

Learning should also change as the desired goals shift and/or become more complicated.[97] Again, group learning environments are optimal when the student is faced with a complex problem and complicated solution.[98] General, individual training may not be appropriate for more complex objectives. "There is a need for more training for specific job functions or responsibilities as well as the team approach. The training needs to be focused on the requirements of the team concerned."[99] Corporate response to training for emergencies addresses it as such:

> Emergency response focuses on the reaction to the physical emergency to protect people, the environment, and property. Emergency Management concentrates on managing the immediate repercussions of the emergency, for example, the media and public reaction, minimizing its impact on normal operations and ensuring the emergency response team is handling the incident in an adequate way. Crisis Management can be defined as the loss of management control; so the corporate team is tasked with developing and implementing pre-emptive strategies to secure the company's long-term future which has been threatened by the emergency.[100]

Adult learning should be in depth and engaging.[101] For true learning to occur, training should not only involve structured learning objectives, but should engage

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[94] Robert Coffee and Garath Jones, "Why Should Anyone Be Led by You?" *Harvard Business Review* (September-October 2000): 15.

[95] Ibid.

[96] Natemeyer and McMahon, *Classics of Organizational Behavior*, 187.

[97] A. G. Sheard and A. P. Kakabadse, "From Loose Groups to Effective Teams," *Journal of Management Development* 21, no. 2 (2002): 134.

[98] Ibid.

[99] Baldwin, "Training for Management," 20.

[100] Ibid.

[101] Clarke, "Emotional Intelligence," 127.

emotional involvement through the use of skilled facilitators and structured reflection sessions.[102]

D. ONLINE DISTANCE LEARNING

A current trend for accomplishing learning goals is utilizing online platforms, which expand access, particularly over vast geographic areas, and alleviate capacity concerns.[103] While online learning does not need to be mutually exclusive of classroom-teaching methods, there is evidence to suggest exclusively networked learning can be effective, and can be utilized to engage diverse and interactive relationships between learners.[104] However, for this method of delivery to succeed, three things are needed: quality and reliable technology, engaged instructors with a positive attitude toward technology and control of the technology, and students who have some degree of technological savvy.[105] Most importantly, the students must be self-motivated.

> The online learning environment should always allow for quality interaction between the learners and content, learners and teacher, as well as learners and peers. … The interaction with content should not just be a one-way interaction via a purely text display or conversion of learning materials to digital forms. The organization of online learning materials may include other forms which have the capability of providing immediate feedback and stimulating the learning process. The knowledge exchanges generated from interaction among the learners and between learners and teacher have become the essential learning materials for open distance learners.[106]

Keeping students engaged under the proactive guidance of a teacher, who is orchestrating the environment, allows them to take charge of the learning experience and

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[102] Ibid.

[103] Thierry Volery and Deborah Lord, "Critical Success Factors in Online Education," *International Journal of Educational Management* 14, no. 5 (2000): 216.

[104] Volery and Lord, "Critical Success Factors," 222–223; Tung Lai Cheng, "Applying Networked Learning to Improve Learner Interactions: A New Paradigm of Teaching and Learning in ODL," *Asian Association of Open Universities Journal* 8, no. 2 (2013): 69.

[105] Volery and Lord, "Critical Success Factors," 216.

[106] Teoh Ai Ping, "Students' Interaction in the Online Learning Management Systems: A Comparative Study of Undergraduate and Postgraduate Courses," *Asian Association of Open Universities Journal* 6, no. 1 (2011): 69.

produce deeper learning.[107] Conversely, it has been found that while students appreciate the flexibility online learning offers, they are frustrated by the lack of interaction and response to help when needed.[108]

Through online group interaction, students can "seek course related information and clarification, and they can exchange and share knowledge" on a larger scale.[109] It exposes students to larger groups with outside connections they can access for new expertise and ideas.[110] Even learners who do not engage in interactive content have been shown to learn simply by observing others online.[111] Ongoing interaction can help a teaching organization change the instructional practice, adjust the approach to knowledge, and create a highly effective training platform while avoiding the common pitfalls of producing "no or superficial changes to instructional practice and to the systems that are maintaining the status quo."[112] Online learning can be an effective group-learning environment, but it requires more than simply providing abundant material online; it must remain true to the objectives of the course.[113] Most importantly, while it allows a shift in the instructor's academic role—and decreases the instructor's burden—interaction between instructors and peers is still critical to the success of the learning platform.[114]

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[107] Rincón-Gallardo and Fullan, "Essential Features," 16.

[108] Lois H. Neuman et al. "What Does an Innovative Teaching Assignment Strategy Mean to Nursing Students?" *Nursing Education Perspectives* 30, no. 3, (2009): 162.

[109] Bing and Ping, "Comparative Analysis," 3.

[110] Rincón-Gallardo and Fullan, "Essential Features," 16.

[111] Ping, "Students' Interaction," 67.

[112] Rincón-Gallardo and Fullan, "Essential Features," 13.

[113] Ping, "Students' Interaction," 69.

[114] Volery and Lord, "Critical Success," 222–223.

E.   THE HEILMEIER CATECHISM

The Heilmeier Catechism was created by previous Defense Advanced Research Project Agency Director George H. Heilmeier to help the agency's officials determine if a project and its associated risks were worth engaging.[115] It consists of seven questions to "help agency officials think through and evaluate proposed research programs."[116] Naval Postgraduate School Research Associate Kristin Darken modified this approach and narrowed it to four questions specific to the adult educational field:

1.   Who is your audience?

2.   What are you trying to accomplish?

3.   What strategies work best?

4.   How do you know you have been effective?[117]

This framework has been utilized at the Naval Postgraduate School's Center for Homeland Defense and Security for organizing, delivering, and evaluating courses and material for the changing audience.

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[115] "The Heilmeier Catechism," Defense Advanced Research Project Agency, accessed November 18, 2016, http://www.darpa.mil/work-with-us/heilmeier-catechism.

[116] Ibid.

[117] Kristin Darken presented the method to the Naval Postgraduate School's Center for Homeland Defense and Security All Hands Meeting on February 2nd, 2010 in Monterey, CA.

III. INVESTIGATION

To understand how ICS came to be adopted as the nation's all-hazard response strategy, one must first understand how ICS was formed and how it became an incident management tool for the fire service, and the method currently utilized to measure its success.

A.   BACKGROUND OF ICS

The Incident Command System was originally designed in the 1970s to handle large-scale incidents.[118] Its first incarnation was developed in California as part of the Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) program to mobilize and coordinate a statewide fleet of fire units to deal with devastating wildfires.[119] The National Wildland Coordinating Group (NWCG) is one of the most prolific ICS users and one of its largest advocates.[120] The NWCG remains a staunch example of the system's ability to effectively handle large-scale incidents.[121] It is important, however, to keep the NWCG's response level in mind: the individuals that comprise this group are coordinators, not initial responders.[122] Phoenix Fire Department Chief Alan Brunacini saw the advantages of ICS, but noted that it was uniquely designed to deal with large-scale incidents.[123] His department modified ICS for smaller-scale incidents in a program that was known as Fire Command. His teachings were published in a book of the same name in 1985 and adopted by many fire departments across the United States.[124] *Fire Command* is now in its second print (2002). The Brunacini ICS

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[118] FEMA, USFA, and NFA, *Incident Command System: Student Manual*, 1.4–5.

[119] Ibid.

[120] Kimberly S. Stambler and Joseph A. Barbera, "Engineering the Incident Command Multiagency Coordination Systems," *Journal of Homeland Security and Emergency Management* 8, no. 1 (2011): 19–20, doi: 10.2202/1547-7355.1838.

[121] "FEMA NIMS Training," National Wildfire Coordinating Group (NWCG), accessed December 3, 2016, http://www.nwcg.gov/fema-nims-training.

[122] "The National Wildfire Coordinating Group," accessed August 18, 2016, http://www.nwcg.gov/.

[123] Alan V. Brunacini, *Fire Command*, 2nd ed. (Saint Louis, MO: Von Hoffmann Corporation, 2002).

[124] Ibid.

method has evolved and is still being taught as the "Blue Card Command Series."[125] Brunacini's Fire Command is a very specific to the fire discipline, and Blue Card is a training curriculum that follows suit.[126]

After 9/11 and the pursuant executive orders that created NIMS, ICS evolved into the publicly mandated operational requirement that exists today. The program's current instructor's guide notes that ICS is a scalable system that can be used for all events, and that can evolve as incidents grow in size and escalation.[127]

One of the basic tenets of ICS is that incidents begin and end on the local level.[128] Local response units are the first to arrive and begin mitigation.[129] If the incident exceeds their scope, they bring in additional help (all the way to the federal level) until the incident is stabilized.[130] It is important for ICS to remain flexible as these incidents expand.[131] When the incident has been stabilized and higher-level resources are no longer needed, they are demobilized; the local responders are the last remaining on the scenes to complete the final tasks of recovery.[132]

Another of ICS' tenets is for all personnel to function effectively as a team, even if they have had little training together.[133] Applying this teaching methodology to incidents such as wildfires and floods is easy, because the incident expands over time. The concern is how to train the initial incident commander when her or she arrives to chaos, is overwhelmed with needs, has limited resources, and cannot staff all the functions needed for ICS. It is during these responses that flexibility is key for incident

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[125] "Blue Card," B-Shifter, accessed November 5, 2015, http://www.bshifter.com/about_01.aspx.

[126] "Blue Card Overview," B-Shifter, accessed November 5, 2015, http://bshifter.com/bcmd_ProgramOverview.aspx.

[127] FEMA, *ICS-200 Instructor Guide*, 2.37.

[128] Department of Homeland Security, *NIMS Training Program*, 2.

[129] FEMA, *ICS-400 Student Manual*, 2.22.

[130] Ibid., 3.3.

[131] FEMA, *ICS-200 Instructor Guide*, 2.40.

[132] FEMA, *NIMS ICS All-Hazards Resource Unit Leader* (Emmitsburg, MD: Emergency Management Institute, 2012), 8.5–14.

[133] Keith H. Cameron, "An International Company's Approach to Managing Major Incidents," *Disaster Prevention and Management: An International Journal* 3, no. 2, (1994): 64.

management structure to operate on limited resources but still effectively engage additional resources as they arrive.[134] This flexible expansion does not always occur as intended.

B.   CURRENT MEASUREMENT METHODS

The first obstacle this study faced was evaluating the current measurement methods used to gauge ICS adoption. First, the only tool the Emergency Management Institute (EMI) utilizes to measure training objectives is a written examination at the conclusion of training, which exclusively measures learning.[135] There is no additional survey administered to measure reactions to the training, behavioral changes, or long-term results from the training.[136] EMI does an excellent job of giving students access to the courses and ensuring they can pass a written test at the end of training, but does not address if learning objectives are actually met, and if the knowledge and ability leave the classroom.[137]

DHS employed a tool called NIMSCAST (NIMS Compliance Assistance Support Tool) to determine if local authorities were incorporating NIMS. NIMSCAST was not much more than an annual survey filled out by the agencies to gauge NIMS compliance.[138] ICS implementation was measured by the percentage of personnel within an agency who completed ICS training. This simple completion rate is not an ideal measure of training, as it only measures an agency's theoretical capability to respond to a hazard, not if the agency is actually utilizing the system.[139] NIMSCAST has since been

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[134] FEMA, *ICS 200 Instructor Guide*, 8.15–17.

[135] Phone call to EMI, Emmitsburg, MD placed on August 19, 2015. Message left by Brandy from independent study program.

[136] Donald L. Kirkpatrick and James D. Kirkpatrick, *Evaluating Training Programs: The Four Levels* (San Francisco: Berrett-Koehler, 2006), 22–38.

[137] No measurement levels for students could be found other than written test completion at the end of the course.

[138] Hildebrand "Coerced Confusion," 277.

[139] Jackson, *Applying Lessons Learned*, 3–4.

discontinued for budgetary reasons; the website is offline and no documentation has been released since a NIMS Alert issued May 25, 2011.[140]

Ideally, DHS would be able to go out in the field and actively evaluate the implementation of NIMS and ICS. Unfortunately, if DHS could not find the resources to maintain the basic NIMSCAST website, it may be safe to assume this level of evaluation is not a realistic goal; the size of this nation and number of incidents encountered each year make this hands-on evaluation even less reasonable. Instead, to measure effectiveness, this thesis uses written literature on incidents published in trade journals and other master's theses that have studied the topic.

C.   DRILLING DOWN WITH THE FIVE WHYS

While ICS has proven effective in some situations, there are still concerns with its use as an all-hazard system. The NWCG effectively utilizes the ICS system on an annual basis to mitigate wildland fires across the United States, with the highest frequency of occurrences in California, North Carolina, and Texas.[141] However, this does not mean that ICS is an effective method to handle other incidents. As noted, Renaud and Moody voice concerns from the law enforcement side that this tool is not suited for rapidly evolving chaos or rapidly unfolding acts of violence. Renaud outlined how acts independent of a standardized command structure saved lives.[142] Moody also advocates that individuals in dynamic situations performing independently, as trained, are more effective than the centralized command advocated by the ICS system.[143] Even representatives of the fire service are concerned with how overly complicated ICS has become since NIMS adoption.[144] These concerns were used to frame the inquiry of this thesis.

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[140] "NIMSCAST," FEMA, accessed October 28, 2016, www.fema.gov/nimscast; "NIMS Alert: NIMS Compliance Assistance Support Tool (NIMSCAST) Update," FEMA, May 25, 2011, https://www.fema.gov/pdf/emergency/nims/nims_alert_nimscast_final_051711.pdf.

[141] "Wildfires," Insurance Information Institute, accessed January 18, 2016, http://www.iii.org/fact-statistic/wildfires.

[142] Renaud, "Making Sense in the Edge of Chaos," 79–91

[143] Moody, "Filling the Gap."

[144] Teeter, "On a Clear Day, You Can See ICS," introduction.

1. Why Do We Need Incident Management Systems?

Douglas Hubbard is a professional risk management advisor for both the public and the private sector.[145] He refers to risk management's four strategies to deal with risk: avoid, reduce, transfer, and retain.[146] Avoidance is defined as not engaging in activities that will incur risk.[147] Emergency responders engage in preventative measures such as fire prevention activities and community policing to achieve this goal.[148] However, effective these programs are, there will still be incidents:

> No matter how hard we try there will be serious accidents because of the interactive complexity (which allows the inevitable errors to interact in unexpected ways and defeat safety systems) and tight coupling (in which small errors propagate into major ones) of most risky systems. Catastrophic accidents are normal (though rare) because they are inherent to the system.[149]

The basic concept of ICS is to provide a simple, coordinated system that all responders can utilize, understand, and follow when risk is realized and disaster occurs.[150]

a. *A Standard System*

Before ICS was adopted as an all-hazard tool, the fire service noted the problems that can occur when responders are utilizing inconsistent systems. Because so many hybrid systems were adopted, the National Fire Service Incident Management Consortium was formed in 1990 to develop a single system.[151] They found, "to be effective, an [incident management system] must be suitable for use regardless of the

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[145] Douglas W. Hubbard, *The Failure of Risk Management: Why it's Broken and How to Fix it* (Hoboken, NJ: John Wiley & Sons, 2009), xi–xiii.

[146] Ibid., 27.

[147] Ibid.

[148] "Fire Prevention Outreach and Materials," USFA, accessed October 11, 2016, https://www.usfa.fema.gov/prevention/outreach/; "COPS: About," USDOJ, accessed October 11, 2016, http://www.cops.usdoj.gov/about.

[149] C. Perrow, "The Limits of Safety: The Enhancement of a Theory of Accidents," in *Key Readings in Crisis Management: Systems and Structures for Prevention and Recovery*, D. Smith and D. Elliot (eds.) (London: Routledge, 2006), 16–28.

[150] FEMA, *ICS-100 Instructor Guide*, 2.4.

[151] FEMA, USFA, and NFA, *Incident Command System: Student Manual*, 1.4–5.

type of jurisdiction or agency involvement"; this allows "resources committed to the incident [to move] quickly and effectively with the least disruption to existing systems."[152] The system was built adopting common business management tasks such as planning, directing, organizing, coordinating, communicating, delegating, and evaluating but still remained flexible in order to accommodate the dynamic and dangerous environments encountered in emergency service.[153]

b.   *Overwhelming Conditions*

A standard system also gives first responders an organized starting point and a higher likelihood of success when they are faced with an overwhelming situation.[154] Studies have shown that freezing when faced with danger is a normal human response, ingrained as a natural reaction to a predator-versus-prey situation.[155] However, this response is not acceptable for first responders; when faced with danger, they are expected to act and react in order to mitigate disaster. The desire to overcome this innate reaction is why response systems and, in turn, training systems, are created.[156] The intended result is for the training and "muscle memory" to take over, allowing responders to work together as a team to mitigate the incident.[157] Renaud addresses this concept in her thesis by citing discussions of recognition-primed decision-making.[158] This concept is effectively the same: through building familiar responses through prior experiences, the mind will have a mental slide show (or routine action) to automatically fall back upon when faced with stress and conflict, reducing the need for active, critical thought.[159]

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[152] Ibid., 1.5, 1.6.

[153] Ibid., 1.6.

[154] Richard Baldwin, "Training for the Management of Major Emergencies," *Disaster Prevention and Management: An International Journal, Volume 3, Issue 1,* (1994): 19.

[155] Joseph LeDoux, *Synaptic Self: How Our Brains Become Who We Are* (New York: Viking, 2002), 6.

[156] Baldwin, "Training for Management," 16–23.

[157] Torkel Klingberg, *The Overflowing Brain: Information Overload and the Limits of Working Memory*, (New York: Oxford University Press, 2009) 88; Cameron, "An International Company's Approach," 64.

[158] Renaud, "Making Sense in the Edge of Chaos," 65.

[159] Klingberg, *Overflowing Brain*, 84

c. *Maintaining Reasonable Control and Focus*

The desire to limit the amount of conscious thought and decision-making is actually in line with one of the basic components of ICS: keeping span of control between three to seven so that leaders do not get overwhelmed and lose track of those they are trying to supervise.[160] George Miller, a pioneer of psychology, discovered most people can process about seven pieces of information in the mind at one time, but most of these functions are background tasks that support the overall goal.[161] The executive portion of the brain (that section of the brain that makes conscious and complex decisions) is only able to do a few things at one time; and trying to make someone do too much at once only creates more stress.[162] In stressful situations, the number of conscious decisions one can effectively make decreases, creating tunnel vision.[163]

There is a biochemical explanation for this phenomenon: When we experience stress, we release hormones that affect the pre-frontal cortex, which is the decision-making portion of our brains.[164] Jonathan Cohen suggests that this portion of the brain is crucial in resolving conflict, overcoming fear, and making decisions based upon judgment and critical thought instead of simply responding to emotions and innate compulsions.[165] So if we stress the brain and inhibit the pre-frontal cortex's ability to make critical thought, the result is that we make poor decisions under stress.[166] Current EMI training curriculum recognizes that this consequence is not acceptable in emergency response. As the ICS 200 course explains:

> Effective decision-making can avert tragedy. … Conversely, poor decision-making or the absence of decisions potentially can result in injury or death to victims or responders. … Poor decisions in the early stages of an incident can make the responders' job more difficult and more

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[160] LeDoux, *Synaptic Self*, 2.35.

[161] Ibid., 177.

[162] Ibid., 178–179.

[163] Klingberg, *Overflowing Brain*, 22–24; Deverell, "Investigating the Roots," 4.

[164] LeDoux, *Synaptic Self*, 224.

[165] Ibid., 258.

[166] Ibid., 224.

dangerous. In addition, they can give rise to much more critical or complex decisions.[167]

Systems that order and limit stress help responders make clear decisions that engage critical thought. Thus, it is important to develop and adopt a standardized disaster control system such as ICS.

2.   Why Are Organizations Failing to Adopt and/or Implement ICS?

They are several reasons why an agency would adopt any new system. In ideal situations, organizations see value in a new idea that purports benefits, and thus they voluntarily adopt the system. Sometimes, however, someone is mandating or coercing the organization to adopt the system. The fire service has long been the originator and champion of successful ICS implementation—for example, National Fire Protection Association (NFPA) 1710 recommends fifteen to seventeen firefighters on a 2,000-square-foot house fire, and this number of working firefighters could be considered a fairly routine response.[168] Other response agencies have not experienced this need or success on a regular basis and therefore would not necessarily have a need to adopt ICS.[169] The ICS training documents themselves acknowledge that more than 95 percent of all national incidents are handled with the initial first responders and require no formal plan.[170]

a.   *Required Participation*

The only federal agency to directly require the use of ICS was Occupational Safety and Health Administration (OSHA), which has regulation for agencies responding to hazardous materials events.[171] DHS did not directly mandate the use of ICS as a law

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[167] FEMA, *ICS-200 Instructor Guide*, 2.21.

[168] "Engine Company Staffing & NFPA 1710/NIST Research," *Fire Rescue*, April 24, 2012, http://www.firerescuemagazine.com/articles/print/volume-7/issue-6/engine-co-operations/engine-company-staffing-nfpa-1710-nist-research.html.

[169] Dick A. Buck, Joseph E. Trainor, and Benigno E. Aguirre, "A Critical Evaluation of the Incident Command System and NIMS," *Journal of Homeland Security and Emergency Managemen*t 3, no. 3 (2006): 5.

[170] FEMA, *ICS 100) Instructor Guide*, 2.39.

[171] Hazardous Waste Operations and Emergency Response, 29 C.F.R, §1910.120

for local responders, but they did coerce agencies by making it part of NIMS.[172] Any agency wanting federal funding must attain and maintain NIMS compliance in order to be eligible to receive these funds.[173] A significant part of NIMS compliance is the adoption and maintenance of ICS and ICS training.[174] Did this requirement result in many agencies taking the NIMS training without the goal of acceptance, but simply with the goal of attaining NIMS compliance and maintaining the flow of federal funds? Jensen argues this occurrence is perhaps the case.[175]

b. *Failing to Work Together*

A key to successful collaboration is to make sure all players are on the same page.[176] It has been found that "organizations can harness complexity by enhancing interoperability among organizations."[177] Right now, the federally adopted mechanism to establish core principals and attain interoperability is the ICS system.[178] But repeated organizational failures during large-scale incidents involving multiple agencies continue to occur.[179] Hurricane Katrina is an often-cited glaring example, but it is questionable whether the ICS system itself failed, or if there were simply too few responders to support the system successfully.[180] However, ICS was developed in essence for events

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[172] Department of Homeland Security, *National Incident Management System* (Washington, DC: Department of Homeland Security, 2008), 3, https://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf.

[173] "The Department of Homeland Security Standard Terms and Conditions 2016," January 29, 2016), 1, https://www.dhs.gov/sites/default/files/publications/Fiscal%20Year%202016%20DHS%20 General%20Terms%20and%20Conditions.pdf.

[174] Department of Homeland Security, *National Incident Management System*, 45.

[175] Jessica Jensen, "The Current NIMS Implementation Behavior of United States Counties," *Journal of Homeland Security and Emergency Management* 8, no. 1, (2010): 22.

[176] Namkyung Oh, "Strategic uses of Lessons for Building Collaborative Emergency Management System: Comparative Analysis of Hurricane Katrina and Hurricane Gustav Response Systems," *Journal of Homeland Security and Emergency Management* 9, no. 1, (2012): 2.

[177] Ibid., 2.

[178] Department of Homeland Security, *National Preparedness Goal*, 2nd ed. (Washington, DC: Department of Homeland Security, 2015), 1.

[179] Amy K. Donahue and Robert V. Tuohy, "Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them," *Homeland Security Affairs* II, no. 2, (2006): 1–2.

[180] Vernon R. Hayes Jr., "Failing to Establish a Unified Command in Louisiana during Hurricane Katrina," *Journal of Homeland Security and Emergency Management* 9, no. 1 (2012): 3.

like Katrina, to integrate disparate response units for large events, regardless of whether or not they utilize the system on a routine basis.[181]

Bertram's research indicated that mandates do play an important role in organizational acceptance, but equally important is an understanding of the need for the system.[182] His studies focused on preparation for the 2002 Winter Olympic games, demonstrating that organizations will adopt collaborative systems when the need is perceived; there is understanding that agencies will be dependent upon each other's efforts; and leaders desired to be prepared and to protect their reputations.[183] This concept of leader preparation and reputation will echo throughout this study, and affects the understood need and interagency interdependency.[184] Donahue and Tuohy noted that

> Responders, like citizens, would rather believe that the possible worst case just will not happen. This kind of denial stems in part from the fact that it is important for emergency responders to have confidence and courage in the face of extreme diversity. One incident manager explained: "The hardest thing is to train a firefighter or a cop to know that they're overwhelmed. They are trained to feel like they can handle it." It's a rude awakening to recognize your own mortality, but we've got to.[185]

Interestingly, Bertram's study focused on a large, known upcoming event.[186] The participants had time to plan and prepare for the event and the system utilized was clearly identified.[187] The failure question focused not on if the organization failed because of the system, but if leaders failed to collaboratively institute the system.[188]

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[181] Stambler and Barbera, "Engineering," 7.

[182] Christopher D. Bertram, "Factors that Affect Interagency Collaborations: Lessons during and Following the 2002 Winter Olympics," (Master's thesis, Naval Postgraduate School, 2008), 11–12.

[183] Ibid., 23–33.

[184] Oh, "Strategic Uses," 8–9.

[185] Donahue and Tuohy, "Lessons We Don't Learn," 15.

[186] Bertram, "Factors that Affect Interagency Collaborations," 7.

[187] Ibid., 8–9.

[188] Ibid., 4–6.

c.   *Atypical Users and Discomfort*

Bertram's situation does differ from initial emergency response, where the question remains if ICS is the correct system. If responders do not use ICS regularly, there could be expected emotional barriers to learning and adopting a new system. As Nicholas Clarke found:

> In social learning, individuals negotiate new meaning from experiences that challenge previously held understanding through a process called critical reflection and dialogue. Participation and risk from the outset generate feelings in learners such as anxiety, uncertainty and some initial discomfort.[189]

This discomfort could understandably lead to rebellion against a system or a half-hearted attempt at compliance, particularly if there is no perceived need in the first place.

To help practitioners gain familiarity with the system and reduce incurred risk, NIMS required agencies to utilize ICS when organizing pre-planned events.[190] Hubbard risk reduction as engaging in activities that will incur risk, but while taking steps to lessen the risk.[191] Many agencies currently use planning tools—such as SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis or FEMA's Threat and Hazard Identification Risk Assessment (THIRA) program—to identify threats and develop response plans.[192] This pre-planning phase may give practitioners the opportunity to engage in and practice the command, general staff positions, and responsibilities in a controlled, unrushed environment.

During this process, it is the planning section's responsibility to "prepare strategies and plans, as alternative strategies and plans for the incident."[193] The best

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[189] Clarke, "Emotional Intelligence," 127.

[190] FEMA, *ICS-200 Instructor Guide*, 1.7.

[191] Hubbard, *Failure of Risk Management*, 27.

[192] "SWOT Analysis," Mindtools, accessed October 10, 2016, https://www.mindtools.com/pages/article/newTMC_05.htm; FEMA, *Threat and Hazard Identification Risk Assessment Guide: Comprehensive Preparedness Guide (CPG) 201* (Washington, DC: Department of Homeland Security, 2013).

[193] Incident Management Training Consortium (IMTC), *All-Hazards Incident Management Team Response and Planning Guide 2016* (Oakhurst, CA: IMTC, 2015), 4.3.

response structure for initial phases may be determined during this exercise. A series of puzzle-solving experiments at MIT during the 1950s found the following results, which could explain the why some practitioners struggle to decide when to use which type of problem-solving structure:

> It was found that centralized structures … were far more conducive to performance (solving the puzzle faster) in contrast to decentralized or flatter structures. … However, later research ... revealed that decentralized structures actually worked better than centralized structures when tasks become more complex.[194]

d.   *Failure to See Need outside Selves*

Emergency response during large-scale incidents takes individual agencies—which are very effective at operating individually—and forces them to work together as part of a larger response mechanism over longer periods of time.[195] Garath Morgan notes:

> Many organizations encounter great problems in dealing with the wider world because they do not recognize how they are a part of their environment. They see themselves as discrete entities faced with the problem of surviving against the vagaries of the outside world, which is often constructed as a domain of threat and opportunity.[196]

J. Jensen's studies have found this to be the case, particularly in rural America where agencies have completed the training and attained NIMS compliance without actually adopting the full ICS response procedure as an agency.[197] It is for this reason the method of NIMS compliance measurement becomes an important issue. There is a significant difference between an individual completing training and passing a test and that individual "buying into" the training and actually putting it into practice at his or her own organization.

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[194] Alireza Abbasi and Naim Kapucu, "Structural Dynamics of Organizations during the Evolution of Interorganizational Networks in Disaster Response," *Journal of Homeland Security and Emergency Management* 9, no. 1, (2012): 7.

[195] Buck, Trainor, and Aguirre, "Critical Evaluation," 1.

[196] Garath Morgan, *Images of Organization* (Thousand Oaks, CA: SAGE, 2007), 219.

[197] Jensen, "Current NIMS Implementation Behavior," 22–23.

Key personnel are not seeing the value in ICS adoption and the value of engaging others to share risk.[198] Transfer of risk is defined as giving the risk to someone else, such as in purchasing insurance.[199] Transferring risk in the emergency response plan can occur with the incorporation of incident management teams (IMTs).[200] Risk transfer can be completed in full by requesting an IMT to assume overall responsibility of the incident with a written delegation of authority.[201] However, IMTs can be engaged without releasing full control and authority. The IMT may simply be there to support operations through logistical support, situational analysis, resource tracking, or documentation.[202] These resources—and the role they are expected to play—must be identified before an incident occurs, as "mutual trust and access to help [are] the most import factors in self-managed teams."[203] More importantly, it has been found that successful managers develop positive working relationships and understandings with key people.[204]

Arguments remain that many agencies completed ICS training because they were mandated by FEMA and NIMS, but they never actually bought into the common operating system.[205] Bertram addressed interagency collaboration in relation to the 2002 Winter Olympics public service planning and operations.[206] His findings agreed that a mandated system was important for support.[207] However, his findings also indicated that personnel will continue to support a system if participants see a need and there is sufficient trust and leadership.[208] In part, this problem arises from a "lack of trust

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198 Ibid.; Hildebrand "Coerced Confusion," 277.

199 Hubbard, *Failure of Risk Management*, 27.

200 Department of Homeland Security, "National Incident Management System Refresh," 10–11.

201 FEMA, *ICS-200 Instructor Guide*, 3.3.

202 IMTC, *All-Hazards Planning Guide 2016*, 12.2–5.

203 Clarke, "Emotional Intelligence," 127.

204 John J. Gabarro, *The Dynamics of Taking Charge* (Boston: Harvard Business School Press, 1987), 57.

205 Jensen, "Current NIMS Implementation Behavior"; Hildebrand "Coerced Confusion," 277.

206 Christopher D. Bertram, "Factors that Affect Interagency Collaborations."

207 Ibid., 48

208 Ibid., 47–51, 53–63.

between agencies and a lack of understanding across disciplines."[209] Resultantly, "ICS is in common use, but it is not understood and implemented in a consistent manner."[210] Any system reliant upon team efforts must have key leadership personnel buy-in to be successful.[211]

3.   Why Are Key Personnel Not Seeing the Value in True ICS Adoption?

Key personnel in disciplines other than the fire service have made the argument that ICS is not an effective tool for all situations.[212] There are two components to this argument. First, there is the consideration that the system itself is flawed. Second, that the system is sound, but the application of the system to all hazards and all disciplines, in all situations, is a flawed exercise.[213] The success of FIRESCOPE's model ICS led FEMA to adopt ICS as a tool for any incident response.[214] With NWCG's further development of ICS, the Red Card system, and the annual recurrence of wildland fires, ICS has proven an effective management tool for at least some arenas of incident management.[215] These successes support the assertion that ICS is not a flawed system in some contexts. However, the question remains if this system is applicable to all threats and disciplines in the all-hazards environment. The system may work well for some situations, but is not applicable in all situations.[216]

a.   ICS Is Too Complex

Both Moody and Renaud believe that ICS is not the appropriate system to address chaotic events. They argue, instead, for a solution based on "retooling" operational response and "sensemaking" methods, respectively.[217] Moody, supporting other social

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[209] Donahue and Tuohy, "Lessons We Don't Learn," 6.

[210] Ibid., 7.

[211] Sheard and Kakabadse, "From Loose Groups to Effective Teams," 133.

[212] Moody, "Filling the Gap."

[213] Ibid.

[214] FEMA, USFA, and NFA, *Incident Command System: Student Manual*, 1.5.

[215] Stambler and Barbera, "Engineering," 19–20.

[216] Moody, "Filling the Gap."

[217] Ibid., 52; Renaud, "Making Sense in the Edge of Chaos," 43–44.

scientists, explains that the nature of the event should determine the pertinence and beneficence of ICS and that ICS has proven unsuccessful for the law enforcement model.[218] He argues that the "success of ICS within its originating work groups—stability of leadership, relationships, and networks—are unlikely to be present for many of the work groups on which the federal government now seeks to impose NIMS/ICS."[219] He further explains that chaotic environments, such as active shooter situations, will "precede establishment of centralized command and control," echoing Tallen's argument that our current command and control system is ineffective and has "left America ill prepared to respond quickly and effectively to a terrorist paramilitary attack."[220] Responders at this type of incident are functioning in a "highly intense, highly complex and low familiarity crisis" that cannot be anticipated and is difficult to resolve, and for which ICS does not provide effective management.[221] In response, he advocates for pre-identified teams that follow the USMC fire team model: small units with similar training and goals, but a limited overall command structure focused more specifically upon accomplishing tactical objectives.[222]

Renaud echoes many of Moody's concerns about ICS appropriateness during the initial event response.[223] NIMS is "useful training," she says, but "it misses the educational component needed to make it a viable holistically appropriate tool and philosophy for even response."[224] She proposes an alternative system that can function in confusing environments, and that identifies personnel beforehand who are uniquely suited to functioning, thinking, and ultimately leading in this type of environment.[225]

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[218] Buck, Trainor, and Aguirre, "Critical Evaluation"; A. M. Howitt and Herman B. Leonard, "A Command System for All Agencies?" *Crisis/Response* 1, no. 2, (2005); D. Wenger, E. L. Quarantellie, and R. R. Dynes, "Is the Incident Command System a Plan for All Seasons and Emergency Situations?" *Hazard Monthly* 10, (1990).

[219] Ibid., 7–9.

[220] Ibid., 11; Bill Tallen, "Paramilitary Terrorism: A Neglected Threat," *Homeland Security Affairs* IV, no. 2, (2008): 2–3.

[221] Moody, "Filling the Gap," 12.

[222] Ibid., 52–53

[223] Renaud, "Making Sense in the Edge of Chaos," 54.

[224] Ibid.

[225] Ibid., 69–70, 75–78.

Her argument does differ slightly from Moody's that initial response chaos leads to unfamiliarity.[226] Instead, she argues that complex parts can be broken into smaller, more familiar—and more easily addressable—components.[227]

Renaud's approach may be new, but applying chaos theory to organizations is not. Chaos/complexity theory is a long-recognized theory of business management explaining that as, an organization is pushed to the "edge of chaos" and deals with external forces and internal dynamics, true leaders and order will naturally emerge.[228] It is therefore the managers' role to "shape and create 'contexts' in which appropriate forms of self-organization can occur."[229] Both thesis authors effectively argue for simpler systems that prioritize and complete critical life-saving tasks over the resource-management tasks they believe are dictated by ICS.[230]

Moody and Renaud's root argument is that, to be appropriate for initial response, ICS must be simplified. Agencies may determine during their threat assessment that a centralized structure is not conducive to the initial chaotic stages of an incident or their response model:

> For structural stability, hierarchy has clear advantages. If an individual organization's activities can be coordinated and managed effectively in hierarchal system, organizations can decrease unnecessary confusion and duplication in operations. … However, in hierarchy, creative but unauthorized efforts for adaption can be easily punished by strict rules of hierarchy, and the collective action problem can induce destructive competitions instead of collaboration among organizations.[231]

Adaptive organization is not a new concept in ICS management. Prior to 2001, ICS—as FEMA taught it to the fire service with a discipline-specific structure—included what was known as "fast-attack mode."[232] During this mode, it was noted that critical

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[226] Moody, "Filling the Gap," 12.

[227] Renaud, "Making Sense in the Edge of Chaos," 66.

[228] Morgan, *Images of Organization*, 227.

[229] Ibid.

[230] Moody, "Filling the Gap," 63–67; Renaud, "Making Sense in the Edge of Chaos," 75–78.

[231] Oh, "Strategic Uses," 2.

[232] FEMA, USFA, and NFA, *Incident Command System: Student Manual*, 2.8.

incident stabilization was needed immediately; it excused the company officer to act rather than to assume "command mode."[233] This exemplifies a comparison between early and later ICS versions; "it is apparent that some of the concepts described during ICS development were significantly narrowed."[234] ICS should not limit any responder's need to take immediate action for critical intervention.

If agencies decide to take this path, they must keep in mind what ICS was designed for—to provide core doctrine to keep all responders on the same page.[235] They should be prepared for incidents that cannot be handled by the local response team and that will engage additional agencies. Transitioning to a larger response and integrating into a hierarchal response could prove problematic.

> When organizations try to pursue complementary use of heterarchy to hierarchy, they need to address the two related problems. The first one is that there is a tension between structural stability and operational flexibility in transition from heterarchy to hierarchy. … The second issue is that hierarchy is not originally designed for the management of unplanned interaction of emergent organizations.[236]

This is not to say agencies should not develop alternative plans for response that do not follow traditional hierarchy. It simply means their plans should indicate how they will transition to a recognized system that is understood and adopted by all responders. Evidence suggests "there is a need to combine both, coordination by plan and feedback, in order to move toward a more self-organize situation in which organizations cooperate collectively to respond efficiently to the disaster."[237]

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[233] Ibid.

[234] Stambler and Barbera, "Engineering," 22.

[235] Department of Homeland Security, *NIMS Training Program*, 1–2.

[236] Oh, "Strategic Uses," 2.

[237] Abbasi and Kapucu, "Structural Dynamics of Organizations," 7.

b. *Operations before Command*

Responders and researchers alike desire a close examination of the operations section in the initial response, and how planning factors into the overall response.[238] The current ICS courses focus heavily upon the roles of the command and general staff as they work through the Planning "P" in preparation for the next operational period.[239] The Planning "P" or Planning Process, shown in Figure 1, is a series of detailed steps a team works through to prepare an Incident Action Plan (IAP) for the next operational period.[240] This cycle is represented in the upper circle of the P in Figure 1—it is the focus of a great deal of the ICS-300 and -400 training curriculums.[241] The stem of the P represents the initial response, not the planning cycle.[242] Attempts to engage in planning cycle activities reserved for the top of the cycle are misplaced if they occur during the initial response.[243] If responders try to complete planning during initial response to fill command positions required by later steps of ICS, they may end up neglecting operational tasks that could be mitigating the incident.[244]

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[238] FEMA, *ICS-400 Student Manual*, 2.19.

[239] Ibid., 2.21–26.

[240] IMTC, *All-Hazards Incident Management Team Response and Planning Guide 2016* (Oakhurst, IMTC, 2015), 4.3; FEMA, *ICS-400 Student Manual*, 2.21–26.

[241] FEMA, *ICS-400: Advanced ICS for Command and General Staff, Student Manual,* (United States Department of Homeland Security, 2011), 2.21-26

[242] IMTC, *All-Hazards Incident Management*, 4.3.

[243] Ibid.

[244] Ibid.
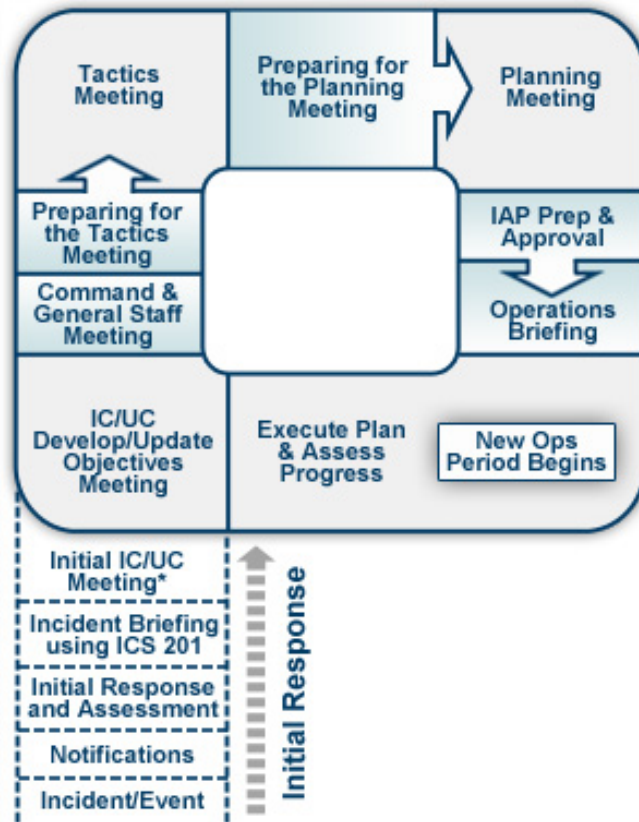
Figure 1. The Planning P Diagram[245]

The ICS training courses focus highly on the upper circle of the Planning P. The focus of this study, however, is the role ICS plays in the first three blocks of the "P" and the development of the incident action plan during the incident's *first and initial* operational period. This research does not intend to criticize the aforementioned professionals in their chosen fields and chosen tactics, particularly law enforcement. But there are lingering concerns about their overall arguments in relation to the ICS *system*. Teeter very effectively addresses the confusion about the system, stating, "ICS is not a strategy for an incident. It is the management of the management of the incident."[246]

Both Renaud and Moody soundly argue that regimented ICS is not effective for managing violence. It is not the purpose of this thesis to ascribe one set of tactics to

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245 Source: "Integrating the Planning 'P,'" Kestrel Management, September 19, 2013, http://kestrelmanagement.com/integrating-planning-p-business-continuity-plan/.

246 Teeter, "On a Clear Day, You Can See ICS," 38.

handle every incident—the ICS curriculum clearly states that ICS must maintain "needed flexibility."[247] However, Moody and Renaud's arguments are both based in one small component of ICS—the operations section and the implementation of operational tactics at the ground level. It is evident they are trying to apply concepts of the planning and logistics section to the operations section in the first operational period. As noted in the Planning P review, these activities are not designed for the initial, chaotic phase of the incident, but are intended to support the next operational period. The same operational strategy and tactics cannot manage both fire and violence, facilitating the need for a flexible system. This study later addresses where the "flexibility" of ICS is lost between training and implementation. Important, now, is the understanding that ICS was intended to apply core concepts to a response in order to develop an overall system that will continue to support and maintain identified strategies and tactics, not supplant them.[248]

c. *Command Team Implementation*

It is not quite clear who is responsible for ICS implementation at what time and to what level. The United States Fire Administration (USFA) Incident Management Team training page provides the chart in Figure 2, which outlines the timeline for incidents and incident management teams.
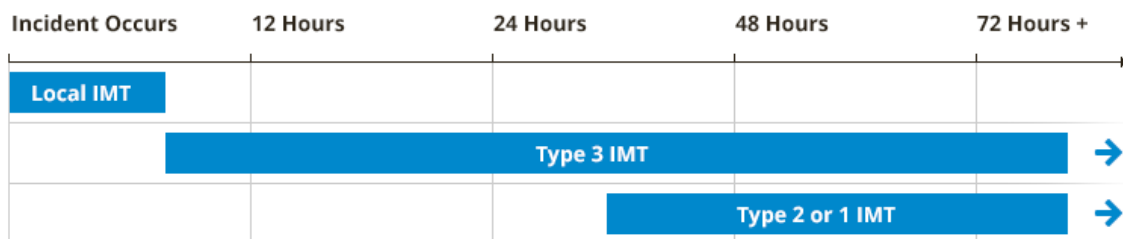

Figure 2. Incident Response Timeline for Command Teams[249]

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[247] FEMA, *Introduction to ICS-100 Instructor Guide*, 2.3.

[248] Ibid., 1.15.

[249] Source: "Incident Management Team Professional Development and Training," USFA.

Following this chart, the training page indicates that advanced-level incident management teams are to be engaged in the latter stages of large incidents and local incident teams are to be engaged during the initial stages of an incident (with initial incidents being the focus of this study). However, it is important to understand the intent of IMTs and the related training for initial responders.

FEMA designates an All-Hazard Incident Management Team (AHIMT) as "a comprehensive [team] resource to either enhance ongoing operations through provision of infrastructure support, or when requested, transition to an incident management function to include all components/functions of a Command and General Staff."[250] The current training addresses IMTs, but formal team training begins at the Type 3 level. There is now an Emergency Management Institute-recognized Type 3 IMT (O305) training course. As explained in more detail in forthcoming Section C4a of this chapter, a Type 3 incident requires multiple resources and may extend over several operational periods, but it is not large enough to require the state or federal response as associated with a Type 1 or 2 incident. Type 3 teams comprise multiple personnel from several agencies across a regional or state level.[251] Smaller incidents, which account for 90 percent of responses,[252] are defined as Type 4 or 5 incidents. Type 4 or 5 teams are smaller regional or individual agency teams. There is no formal Type 4 or 5 team training curriculum, though ICS 300 and 400 training courses were designed for those serving in command and general staff positions and intended for those serving on local or regional incident management teams.[253]

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[250] "An Overview of Incident Management Teams," USFA, accessed October 9, 2016, https://www.usfa.fema.gov/training/imt/imt_overview.html.

[251] Ibid.

[252] FEMA, *ICS-200 Instructor Guide*, 2.39.

[253] FEMA, *ICS-300: Intermediate ICS for Expanding Incidents Student Manual* (Washington, DC: Department of Homeland Security, 2013).

Moreover, the AHIMT's expectations for incident response are clearly outlined in the EMI NIMS ICS All-Hazards Incident Commander (E/L 905) training course:

> Upon arrival, the AHIMT's Incident Commander (IC) meets with the local IC and the Agency Administrator (County Executive, City Manager or Mayor, etc.) to determine what they expect from the AHIMT, and to obtain any necessary delegation of authority. The incoming IC then briefs the rest of the incoming AHIMT about their role. The AHIMT integrates as requested into the current Incident Command System (ICS) structure.[254]

What is unclear, however, is what the initial responders are expected to brief the incoming AHIMT about upon arrival.

Used as a learning aid and example in the aforementioned incident commander instructor course is a sample welcome letter from Thomas Tarp of the California Department of Forestry and Fire Protection that outlines expectations and advice for new IMT members. To outline the chaos that is expected, a section of the letter entitled "That First Operational Period" states (with the assumption that all key positions of the ICS team are now staffed) that responders should expect a "kaleidoscope of efforts":

> Personnel are working extended hours … the incidents setting could be unfamiliar to them. Personnel currently working on the incident may have limited information. Resources and materials of all types are invariably still en route. Mentally, the team knows what to do and desires to do it. Physically, frustration will set in when demands outdistance ability to supply.[255]

It is important to note that this section of the letter refers to the IMT's confusion during *their* first operational period—not the first operational period of the incident and of the initial first responders. The letter clearly states, "Initial/extended attack troops need relief and retrofitting, new line folks need to go out under direction, incident facilities need development, long-range planning begins and an in-depth view of all safety aspects of the incident is required."[256]

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[254] FEMA, *NIMS ICS All-Hazards Incident Commander: Instructor Guide* (Emmitsburg, MD: Emergency Management Institute, 2012), Unit 3 supplemental material.

[255] Ibid.

[256] Ibid.

The Planning P of ICS is the process that deals with managing the overall incident response, to be engaged by IMTs.[257] As Teeter outlined in his thesis:

> ICS is not a strategy for an incident. It is the management of the management of an incident. Setting up an efficient office and running an efficient planning cycle does not solve real problems caused by a disaster or catastrophic incident. Real people who are experts in their discipline will always be needed to develop the strategies and carry out the tactics.[258]

The steps to implement ICS properly are not clear to many first responders, particularly during the earliest phases of an incident.[259] The phase of the response to which Moody and Renaud reference in their theses should only apply to the first three blocks of the Planning P.[260] It creates confusion when responders believe that command and general staff positions—and the full planning cycle—should be staffed at this phase of the incident, which can cause ICS to be implemented improperly.

4.   Why Are Responders Failing to Implement ICS Properly?

Implementation of a system is difficult without complete understanding of the system. And there is evidence that responders do not understand ICS completely.[261] At the conclusion of her thesis, Renaud argues for a sense-making alternative to ICS; to illustrate the need for this alternative, she relays a personal experience during a police-involved shooting in which ICS, and the role she was assigned within ICS, were inappropriate for the response.

> As Logistics [Officer in Charge] that day, I was surrounded by over one hundred officers all wanting to do something. (The "resources" tracked and assigned out by the logistics section includes people as well as equipment.) Unfortunately, I had no task to give them. … There was precious little to do.[262]

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[257] FEMA, *ICS-400 Student Manual*, 2.21.

[258] Teeter, "On a Clear Day, You Can See ICS," 38, referencing Ennis 2008, 58.

[259] Donahue and Tuohy, "Lessons We Don't Learn," 7.

[260] FEMA, *ICS-400 Student Manual*, 2.22.

[261] Hildebrand "Coerced Confusion," 278.

[262] Renaud, "Making Sense in the Edge of Chaos," 39.

She argues that, operating under the constraints of ICS, the resources were not properly engaged in activities that could have found the suspect and resolved the incident sooner. Analyzing this one statement was an important finding in this investigation, as it illuminates several concerns.

First, while a minor observation, the Logistics Section is headed by a logistics section chief. This role is not referred to as the logistics officer in charge (OIC), so it is not confused with the overall officer in charge: the incident commander (IC). This is a minor complaint, but indicates possible confusion in ICS. More importantly, there is clear evidence of the misunderstanding of ICS roles. It is true that the logistics section and the logistics section chief are responsible for ordering resources.[263] However, once these resources arrive on scene, it is the responsibility of the resource unit leader in the planning section (not the logistics section) to check in and track the resources.[264] Moreover, once the resources are checked in, it is the planning section's responsibility to coordinate with the operations section to appropriately assign these resources where they are needed to accomplish the overall strategies and tactics of the incident control.[265]

Renaud's experience serves as an example of key ICS components being misunderstood by a highly successful and educated member of the emergency services field. It is difficult to use this statement as evidence to either support or decry the effectiveness of ICS, because it is unclear if ICS was implemented properly during the incident. The question remains if this is because of training, implementation, or inappropriateness for the incident type, but what is clear is a misunderstanding of the roles of specified ICS positions.

While Moody does not specifically address the first operational period, he addresses overall inappropriateness of ICS for law enforcement application on large, chaotic incidents, particularly active shooter responses. His analysis of the attack in Mumbai, India, echo Renaud's arguments that individuals in highly charged

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[263] FEMA, *ICS-400 Student Manual*, 2.14.

[264] FEMA, *NIMS ICS All-Hazards Resource Unit Leader*, 2–9.

[265] Ibid., 2–8.

environments performing their respective jobs, as trained, are more effective than when attempting to implement the ICS system.[266] He supports his argument by citing and advocating the United States Marine Corps Command and Control manual as it relates to fire team operations—the goal of this program is to "manage uncertainty" according to the response, as opposed to Moody's interpretation of ICS' goal to "manage resources."[267] His statement, however, is not entirely correct. Resource management is a very important component of ICS, but even the earliest ICS training course clearly states that ICS is composed of structures and processes for the overall incident management.[268] Moody's statement is again an indication of a possible misunderstanding of the overall ICS system.

ICS implementation misunderstandings are not limited to law enforcement. The proper steps are unclear to many first responders, particularly during the earliest phases of an incident.[269] Teeter argues this point in his thesis, but also points to failures in the system as an all-hazards generalist tool.[270] His overall recommendation was to implement ICS from the "bottom up"—as opposed to "top down"—supporting Renaud and Moody's claims that planning and logistics are not applicable in the first stages of the incident.[271] His assertions are actually in direct conflict with the ICS 200 curriculum, which clearly states that the operations section expands from the bottom up.[272] This order is a departure from the original incarnation of the ICS system (in the wildfire arena) that championed all sections be learned from the "bottom up" as part of the Red Card program.[273] Regardless, it is the operations section that should be responding and organizing during the initial stages of the incident.

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[266] Moody, "Filling the Gap," 64.

[267] Ibid., 50–54.

[268] FEMA, *ICS-100 Instructor Guide*, 2.3.

[269] Donahue and Tuohy, "Lessons We Don't Learn," 7.

[270] Teeter, "On a Clear Day, You Can See ICS," 37–38.

[271] Ibid., 80, 83–85.

[272] FEMA, *IICS-200 Instructor Guide*, 4.15.

[273] Stambler and Barbera, "Engineering," 19–20.

The aforementioned examples offer repeated indications of educated and advanced emergency practitioners misunderstanding ICS and roles in ICS systems—to the point that analyses in their related master's theses interpreted the system incorrectly. There clearly still remains much confusion as to the overall role of ICS, particularly as it applies to the operations section and the first response period.

5. Why Are First Responders Failing to Understand ICS and Their Role in ICS?

Are the current training programs appropriately training and preparing leaders for their roles? John Gabarro studied private sector agencies undergoing managerial transitions and noted key findings with successful organizations.[274] Successful leaders were defined by several key characteristics, including prior experience and learning, personal and interpersonal factors, and most importantly, that "the all-purpose manager who can be slotted into just about any organization, function, or industry exists only in management and textbooks."[275] Further revelations included that for managers to truly understand their position, they must undergo a five-step process: 1) taking hold, 2) being immersed, 3) reshaping, 4) consolidating, and 5) refining This process usually takes about two to three years to complete.[276] The training time required of NIMS-compliant emergency responders to handle major incidents is considerably shorter than this time period. If first responders are not properly trained in the proper implementation of ICS, this breakdown could explain the failure to implement ICS properly.

a. Basic NIMS/ICS Training

First, this section analyzes the basic NIMS-compliant required training. Depending on the size and scope of the incident and the number of personnel and resources assigned, DHS will classify the incident as a Type 1 (the most severe) through Type 5; as previously mentioned, the smaller-scale and most common events are recognized as Type 4 or Type 5 incidents, which incorporate a local response. In regards

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[274] Gabarro, *Dynamics of Taking Charge*, 1–9.

[275] Ibid., 68.

[276] Ibid., 7.

to training for local responders, the national guidance directs, "All responders serving in a command or general staff position must complete ICS-100-/200-/300-/400."[277] The foundation of FEMA ICS training begins with the ICS-100 Introduction to the Incident Command System course. This course "provides the foundation for higher-level ICS training."[278] For many first responders, this is the first introduction they will have to the ICS system and the foundation upon which they will build their entire premise of incident management under the NIMS model.

The second ICS course offered is ICS 200, ICS for Single Resources and Initial Action Incidents. This course is designed for and the responsibility of "first line supervisors (Sergeant/Lieutenant), mid-level management (Captain/Shift Commander) and command (Battalion Chief/Division Chief/District Commander/Public Information Officer) and general staff (Operations/Planning/Logistics/Finance-Admin.)."[279] It is during this course that responders are first introduced to leadership concepts, briefings, more complex plans, and the actual implementation of ICS to manage incidents.

Both courses can be delivered online or in person. However, there is a significant discrepancy in the total amount of time required between the two delivery methods. The online ICS-100 course awards 0.3 continuing education units (CEUs) and states that course length is 3 hours.[280] However, the instructor manual for this course outlines a total of 9.5 hours of classroom delivery, with the time dedicated to pertinent sections as shown in Table 1.

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[277] "Incident Management Team Professional Development and Training," USFA.

[278] "IS-100.B," FEMA.

[279] "Fact Sheet: NIMS ICS-200 Training: Who Must Take it, What it Covers," FEMA, March 2007, https://www.fema.gov/media-library-data/20130726-1824-25045-7008/nims_ics_200_training_fact_sheet_2007.pdf.

[280] "IS-100.B," FEMA.

Table 1.   ICS-100 Significant Instructional Segments

TIME	ACTIVITY
10 min	Importance of ICS
12 min	Command
10 min	Activity: Assuming Command
8 min	Planning and Organizational Structure
10 min	Activity: Incident Action Plan
55 min	Functions of Incident Command and Command Staff
2 hr 5 min	Functions of General Staff
1 hr 30 min	Putting It All Together

For ICS-200, the online course also awards 0.3 CEU and states course length as 3 hours, whereas the instructor-led program outlines a total of two days (12.15 hours), covering the items listed in Table 2..[281]

Table 2.   ICS-200 Significant Instructional Segments

TIME	ACTIVITY
5 min	Incident Assessment
18 min	Management by Objectives
10 min	Preparedness Plans and Agreements
60 min	Activity: Developing Incident Objectives (SMART Objectives)
20 min	Command Staff
2 min	Expanding Incidents
20 min	General Staff
10 min	ICS Tools (Introduction to the ICS 201 Form)
60 min	Activity: Using ICS Form 201, Incident Briefing
15 min	Briefings (Staff-Level/Field-Level/Section-Level)
10 min	Operational Period Briefing
55 min	Activity: Operational Period Briefing
1 hr 30 min	ICS Organizational Flexibility and Incident Complexity

There is no explanation for the discrepancy in training delivery methods and hours required.[282] More importantly, there is no measure to determine if the online delivery method achieves learning and actually gives students new knowledge, skills, and

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[281] Ibid.

[282] Ibid; FEMA, *ICS-200 Instructor Guide*.

attitudes to implement the system effectively.[283] More disturbing is that fact that a simple Google search using the keywords "FEMA ICS answers" returns several webpages from which students can download the answers, challenge the online test, and receive a certificate even though they have not engaged in any learning modules.[284] One website's administrator boldly claims, "All the answers on the website work. I am an EMT in New York City and work for the 911 system. I know the anger and frustration we all must go through to pass these mandatory courses. I am forced to take these myself."[285] Conversely, the classroom curriculum includes student-involved and instructor-observed activities and exercises to ensure learning, as well as the final written exam.[286]

One of the key concepts emphasized by the ICS 200 instructor's guide is important in later discussions. The manual states:

> A key principal of ICS is its flexibility. The ICS organization may be expanded easily from a very small size for routine operations to a larger organization capable of handling catastrophic events. Standardization with ICS does not limit flexibility.[287]

This model establishes operations, and the introduction and importance of leadership during the first response to "provide purpose, direction, and motivation for responders working to accomplish difficult tasks under dangerous, stressful circumstances."[288] This course dedicates two hours of instruction and the entirety of module #2 to the concepts of leadership for first responders, declaring: "Duty is how you value your job … but it is much more than simply fulfilling requirements. A leader commits to excellence in all

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[283] Donald L. Kirkpatrick and James D. Kirkpatrick, *Implementing the Four Levels: A Practical Guide for Effective Evaluation of Training Programs* (San Francisco: Berrett-Koehler Publishers, 2007), 47–48.

[284] Simple Google search conducted on November 9, 2016, https://www.google.com/search?site= &source=hp&q=fema+ics+answers&oq=fema+ics+answers&gs_l=hp.3..0j0i22i30k1l9.1157.7608.0.8591.2 1.17.4.0.0.0.138.1896.5j12.17.0....0...1.1.64.hp..0.20.1789.0..0i131k1.nkCKsFO72yE.

[285] "Frequently Asked Questions," FEMA Test Answers, accessed November 9, 2016, http://www.fematestanswers.com/f.a.q.html.

[286] FEMA, *ICS-200 Instructor Guide*, 1.19.

[287] Ibid., 6.3.

[288] Ibid., 2.20.

aspects of his or her professional responsibility."[289] Common leadership responsibilities outlined by ICS-200 include:

> Supervises the scene of action, evaluates the effectiveness of the plan. … Understands and accepts the need to modify plans or instructions. … Takes command of assigned resources. … Demonstrate initiative by taking action … requires the ability to make sound, timely decisions during an incident or event.[290]

Also introduced into this program is the first written incident action plan document, the ICS 201 form—Incident Briefing. The form is

> an eight-part form that provides an Incident Commander/Unified Command with status information that can be used for briefing incoming resources, an incoming Incident Commander or team, or an immediate supervisor. … Occasionally, the ICS Form 201 serves as the initial Incident Action Plan (IAP) until a Planning Section has been established and generates, at the direction of the Incident Commander, an IAP.[291]

Of key importance in this comment is that it recognizes the planning section has likely not been staffed yet and a formal IAP has not been developed. The newest release of the ICS 201 contradicts this understanding. Page three of the form is set aside for the incident commander to draw his or her command structure as it exists at that time in the incident. The original release of the ICS 201 form simply had a blank box provided. The 2010 update of this document has a structure already initiated, with all of the command and general staff positions present.[292] Even though the directions indicate that responders should "fill in additional organization as appropriate," and to "modify the chart as necessary," it does not clearly indicate that these positions do not need to be filled at this point of the response.[293] Could the indication by first responders be that staffing these positions and completing this portion of the organization chart is more important in the initial stages than staffing and coordinating the operations of the incident? This

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[289] Ibid.

[290] Ibid., 2.21.

[291] Ibid., 4.33.

[292] FEMA, *National Incident Management System (NIMS) Incident Command System (ICS) Forms Booklet* (Washington, DC: Department of Homeland Security, 2010), 8, https://www.fema.gov/media-library-data/1425992150044-22337affef725b5f9d5fd8c7e9167ad8/ICS_Forms_508_12-7-10.pdf.

[293] Ibid., 11.

implication appears to be in direct conflict with the quote presented in this paragraph, and guides responders away from a "flexible guide" toward a pre-determined structure at pre-determined times.

The next course offerings are ICS 300 and ICS 400, for advanced responders. The ICS 300 course guidance states it is designed for those who would serve in "command and general staff positions," or Type 3 incidents, while ICS 400 clearly indicates that it is for advanced-level managers.[294]

> [ICS 400 is] designed for those emergency response personnel who would function as part of an Area Command, [emergency operations center], or [multi-agency coordination center or group (MAC)] during a large, complex incident or event. Or those personnel who are or would likely be part of a local or regional Incident Management Team during a major incident, whether single agency, multi-agency, or Unified Command.[295]

Both of these courses must be completed in an instructor-led environment. The ICS 300 course is completed in two days of instruction, and ICS 400 in three days. Following the established NIMS guidelines, an agency administrator who only intends to command his/her own agency during an incident and not participate in an area command or incident management team can become NIMS compliant with only six hours of online training and two days of classroom training in ICS 300, leading to a total of 22 hours of training in incident management. Even if an incident commander completes training through the ICS 400 level, this training could total as little as 46 hours before the student plays a key role in trying to mitigate or control a disaster.

b.   Discipline-Specific ICS Training

The fire service can avail itself of a significant amount of training in the incident command system above and beyond basic NIMS-compliant training. As previously mentioned, Alan Brunacini's book, *Fire Command*, is in its second print.[296] A training

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[294] FEMA, *Fiscal Year 2015 Training Catalog: Train, Exercise, Educate* (Washington, DC: Department of Homeland Security, 2014).

[295] "ICS-400, Advanced ICS Command and General Staff, Complex Incidents, and MACS for Operational First Responders," USFA, accessed November 5, 2015, http://apps.usfa.fema.gov/nfacourses/catalog/details/10621.

[296] Brunacini, *Fire Command*.

business called "Blue Card" is based on this book, but advocates that the program has been adopted for an all-hazards approach and integrates with NIMS on Type 4 and 5 incidents.[297] This program involves two steps for initial certification as well as continuing education and a three-year recertification process. The initial certification requires 40 to 50 hours of online training, followed by hands-on sessions where the student completes a simulation, which is directly observed and evaluated by a certified instructor.[298] This program recognizes the need for ongoing training. The three-year training recertification process requires at least 36 "Blue Card-tracked" hours.[299] The Blue Card program is a private business, but its teaching and system has been adopted by many fire agencies across the nation and is endorsed by such groups as the International Society of Fire Service Instructors (ISFSI), the International Association of Fire Chiefs (IAFC), the Fire Department Safety Officers Association (FDSOA), and the Center for Public Safety Excellence (CPSE).[300]

The National Fire Academy also offers fire service–specific ICS training programs above basic NIMS requirements. These programs are called the Command and Control of Incident Operations (CCIO) series and consist of the six classes listed in Table 3.[301]

Table 3.   CCIO Series Classes

Course Name	Course #	CEU/Hours	Days
CCIO	R0312/R0831	4.8/48	6
CCIO at Target Hazards	R0314/R0825	4.2/42	6
CCIO at Multi-Alarm Incidents	R0297	4.8/48	6
CCIO at Natural/Man-Made Disasters	R0308	6.7/67	10

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[297] "How Blue Card Integrates with NIMS," B-Shifter, accessed October 3, 2016, http://bshifter.com/about_video3.aspx.

[298] "General Program Overview," B-Shifter, accessed October 3, 2016, http://bshifter.com/bcmd_BlueCardMaterials.aspx.

[299] Ibid.

[300] "Blue Card Pricing Overview," B-Shifter, accessed October 3, 2016, http://bshifter.com/bcmd_PricingOverview.aspx.

[301] "NFA Course Catalog," USFA/

It should be noted that even the most in-depth and longest class in the series (CCIO at Natural/Man-Made Disasters) requires only ICS 100 and 200 as pre-requisites and "meets the National Incident Management System requirements for ICS 300-level and ICS 400-level courses."[302] Moreover, these courses are again very discipline specific; the "primary focus for this course is directed at the operational component of a fire department's response to these incidents. Emphasis is placed on command and control decision-making skills and the interrelationship of the operational function."[303] These courses provide the fire service an opportunity to attain an additional 205 hours of training above the minimum 6 hours of online training offered in ICS 100 and 200 to master implementation of the ICS system.

Conversely, the Emergency Management Institute does not offer as much opportunity to other disciplines such as law enforcement, non-fire department rescue teams, or non-fire department EMS agencies. The courses are offered by the Center for Domestic Preparedness, and are primarily geared to law enforcement. The courses offered are listed in Table 4.[304]

Table 4.   Center for Domestic Preparedness Courses

Course Name	Course #	CEU/Hours	Days
Field Force Command and Planning	MGT-300	2.4/24	3
Field Force Command: Executive Course	MGT-300-C	.8/8	1
Incident Command: Capabilities, Planning and Response Actions for All Hazards	MGT-360	2.4/24	3
Technical Emergency Response Training for CBRNE Incidents	PER-260	0.0/32	3

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302 "Command and Control of Fire Department Operations at Natural and Man-Made Disasters R0308," United States Fire Administration, accessed October 3, 2016, https://apps.usfa.fema.gov/nfacourses/catalog/details/30.

303 Ibid.

304 "NTE Course Catalog," Emergency Management Institute, accessed October 3, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results.

While these courses offer law enforcement an opportunity for 88 hours of additional training, there are significant differences in the courses. First, the Technical Emergency Response Training is specifically geared toward chemical, biological, radiological, nuclear, and explosives (CBRNE) events; while students practice initial command at the beginning of the course, the remainder is geared toward "advanced practical application in the identification of CBRNE hazards, personal protective equipment (PPE), safety considerations, and hazards and evidence preservation," not necessarily command functions.[305] The Field Force Command courses are specifically geared toward "instruction on incident management, incorporating preplanning considerations and other responsibilities of management level responders."[306] The training environment does not appear to give law enforcement as many discipline-specific training opportunities to hone ICS skills as are afforded to the fire service.

c.   *Position-Specific Training*

The greatest opportunity for all responders to receive advanced ICS training, regardless of discipline, lies within the position-specific training courses now offered by EMI and FEMA. While they are not part of the NIMS-required training, they are currently in active delivery and development. These courses are not a general overview of the ICS command structure; rather, as the name suggests, they are specific to key identified positions within the ICS system, the primary command and general staff positions, and the primary unit leader positions that support them.[307] There are currently more than 31 positions identified from individual resource to incident commander in the ICS system.[308] The major positions are indicated on the command chart in Figure 3.

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[305] "Course Details: PER-265: Law Enforcement Response Actions for CBRNE Incidents," Emergency Management Institute, accessed October 3, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results.

[306] "Course Details: MGT-300: Field Force Command and Planning," Emergency Management Institute, accessed October 3, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results.

[307] "NIMS ICS All-Hazards Position Specific Training Program," FEMA.

[308] "ICS Organization," FEMA, accessed October 4, 2016, https://training.fema.gov/emiweb/is/icsresource/assets/icsorganization.pdf.
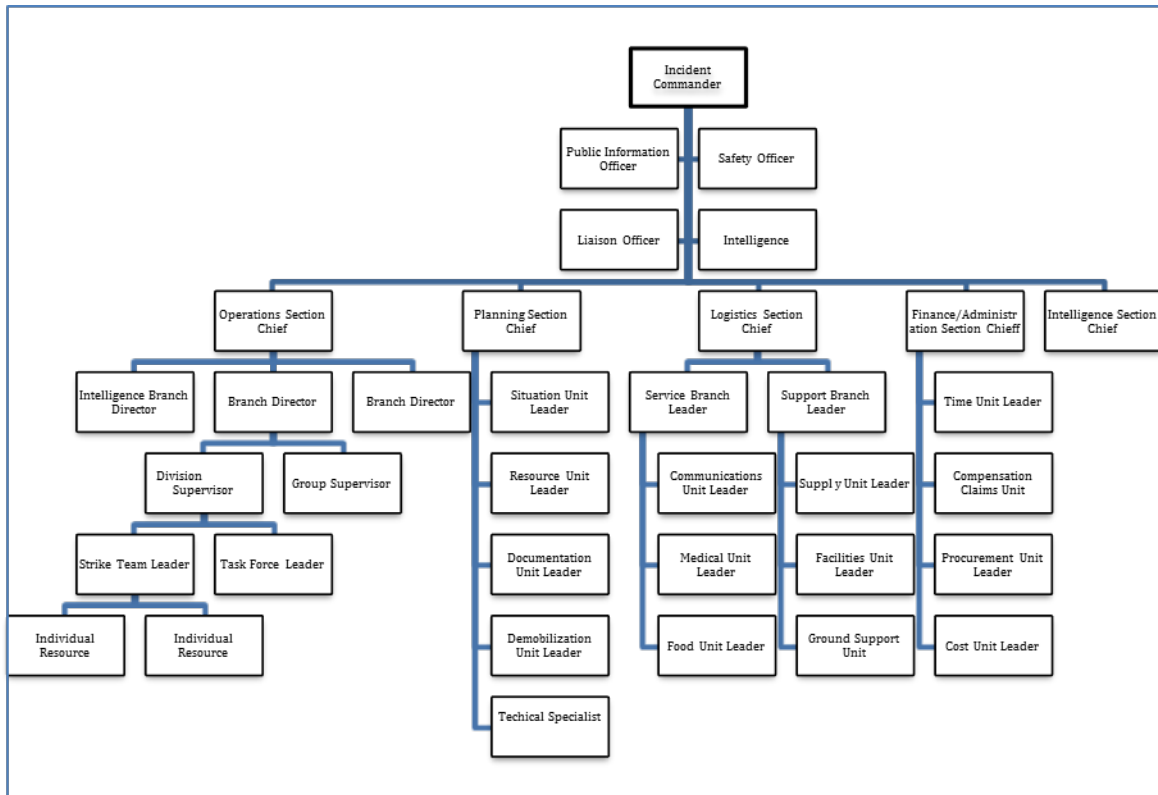
Figure 3. Full ICS Command Chart with All Positions

These training requirements are quite in-depth, are not available online, are usually limited to the number of students that can attend them, and are expensive to deliver. The finance/administration section is the least time-intensive general staff section training, with only two 21-hour courses offered, for a total of 42 hours.[309] They escalate considerably in commitment from there. The planning section offers courses for two of its unit leader positions, situation unit leader (35 hours) and resource unit leader (28 hours), before taking the planning section chief course itself (28 hours), for a total of 91

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[309] "E0973: NIMS ICS All-Hazards Finance/Administration Section Chief Course," Emergency Management Institute, accessed October 4, 2016, https://www.firstrespondertraining.gov/ntecatalog/ EMI#anc-search-results; "E0975: NIMS ICS All-Hazards Finance/Administration Unit Leader Course," Emergency Management Institute, accessed October 4, 2016, https://www.firstrespondertraining.gov/ ntecatalog/EMI#anc-search-results.

hours of classroom time needed to complete the planning section of ICS.[310] Table 5 outlines the total hours involved for each section, not including basic ICS training.

Table 5.   ICS Position-Specific Section Training[311]

SECTION/STAFF	EMI COURSE #	COURSE/POSITION	HOURS	TOTAL HOURS
FINANCE/ADMIN	0975	Finance/Administration Unit Leader	21	42
	0973	Finance/Administrative Section Chief	21	
OPERATIONS	0960	Group/Division Supervisor	21	70
	0984	Task Force/Strike Team Leader	21	
	0958	Operations Section Chief	28	
PLANNING	0964	Situation Unit Leader	35	91
	0965	Resource Unit Leader	28	
	0962	Planning Section Chief	28	
LOGISTICS	0969	Communications Unit Leader	21	119
	0970	Supply Unit Leader	28	
	0971	Facilities Unit Leader	35	
	0967	Logistics Section Chief	35	
COMMAND	0952	Public Information Officer	35	112
	0956	Liaison Officer	14	
	0954	Safety Officer	28	
	0950	Incident Commander	35	
TOTAL OVERALL TRAINING				434

The unit leader positions that support the section chief positions are not prerequisites to taking the class. However, one of the tenets of ICS is that once command or any general staff positions are established, they assume all responsibilities for that position unless otherwise delegated.[312] This top-down approach means that anyone serving effectively in a general staff function should understand the requirements and responsibilities of all the unit leader positions that support their position.[313] Following

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[310] "E0964: NIMS ICS All-Hazards Situation Unit Leader Course," Emergency Management Institute, accessed October 4, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results; "E0965: NIMS ICS All-Hazards Resource Unit Leader Course," Emergency Management Institute, accessed October 4, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results; "E0962: NIMS ICS All-Hazards Planning Section Chief Course," Emergency Management Institute, accessed October 4, 2016, https://www.firstrespondertraining.gov/ntecatalog/EMI#anc-search-results.

[311] Source: "National Incident Management Systems (NIMS)," Emergency Management Institute, accessed October 4, 2016, https://training.fema.gov/nims/.

[312] FEMA, *ICS-200 Instructor Guide*.

[313] FEMA, "Incident Command System Training: ICS Review Materials," May 2008, 9, https://training.fema.gov/emiweb/is/icsresource/assets/reviewmaterials.pdf.

this guideline, the incident commander should understand all the general staff positions and the unit leader positions that support them, indicating that an individual would have to undergo no less than 433 hours of training to truly master the incident commander position, in addition to the minimum NIMS ICS training required.[314] The requirements for general staff positions are less substantial but still daunting, ranging from 21 hours for the finance/administrative section to 119 hours for the logistics section.

Every command and general staff–level position has its own position-specific training course.[315] Only critical unit leader positions have position-specific training classes associated with their jobs at this time. Figure 4 and Table 6 indicate which positions have position-specific training courses available and outline the position-specific training hour requirements as compared to current FEMA minimum requirements for ICS/NIMS compliance. It should be noted that every level in the operations section has an associated position-specific training course available. These graphics depict a large discrepancy between the NIMS ICS minimum required training and training expected of incident management teams, and offered by EMI and FEMA.

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[314] As indicated by all the FEMA Position-Specific Training Courses as currently offered by EMI. See "NIMS," Emergency Management Institute.

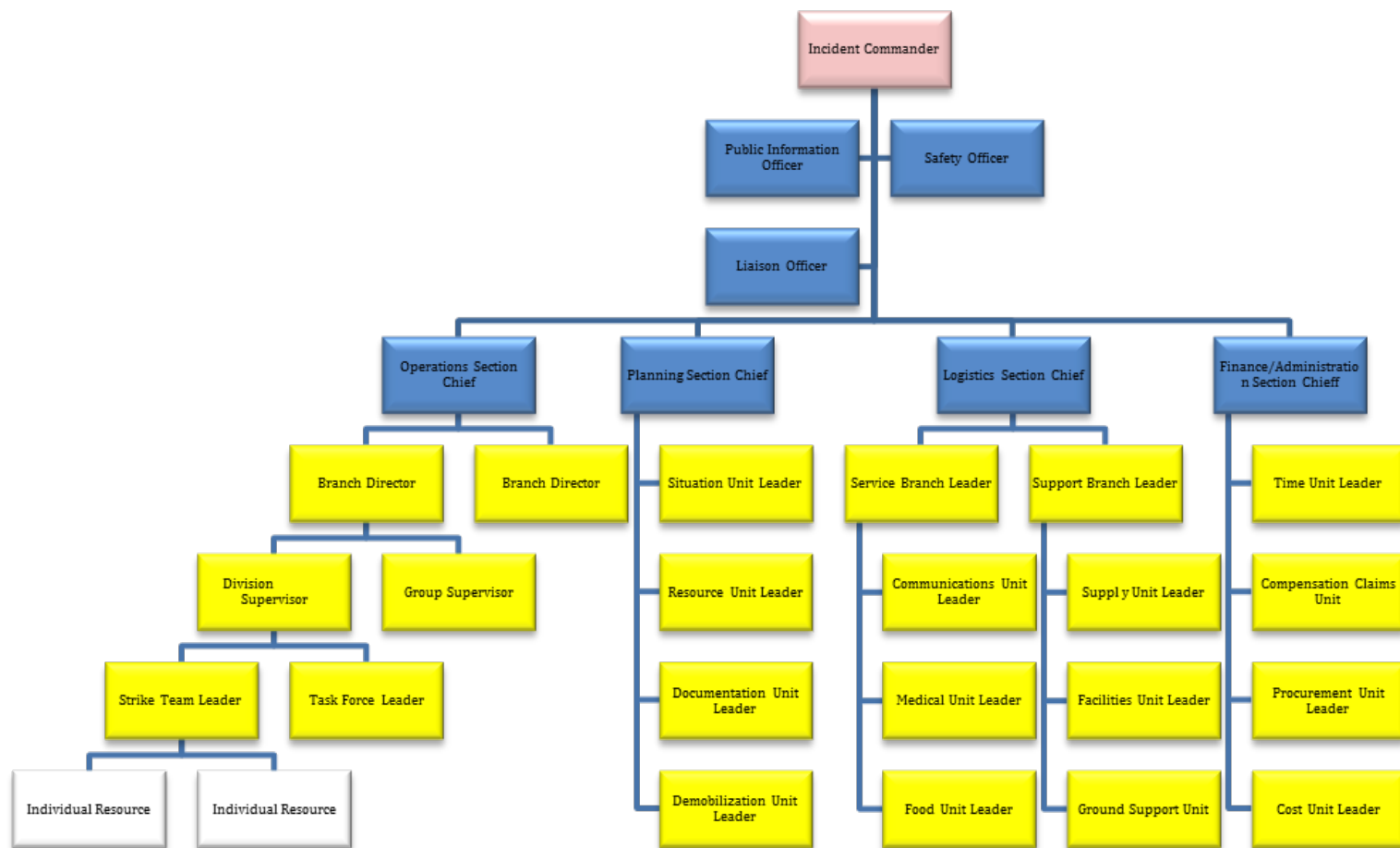[315] "NIMS," Emergency Management Institute.

Figure 4. ICS Overview with All Specific Positions

Table 6.   ICS Training Hours Comparison

LEVEL	COURSE	HOURS	HOURS	COURSE/POSITION
Individual Responder	ICS 100	3	3	ICS 100
First Line Supervisor	ICS 200	3	3	ICS 200
			21	Task Force/Strike Team Leader
Mid-Level Management	ICS 200	3	21	Group/Division Supervisor
			35	Situation Unit Leader
			28	Resource Unit Leader
			21	Communications Unit Leader
			28	Supply Unit Leader
			35	Facilities Unit Leader
			21	Finance/Administration Unit Leader
Senior-Level Management	ICS 300	16	16	ICS 300
			28	Operations Section Chief
			28	Planning Section Chief
			35	Logistics Section Chief
			21	Finance/Administrative Section Chief
			14	Liaison Officer
			28	Safety Officer
			35	Public Information Officer
Incident Commander	ICS 400	24	24	ICS 400
			35	Incident Commander
IMT Type 3			40	Type 3 AHIMT (O305)
TOTAL HOURS		46	530	TOTAL POSSIBLE HOURS

Also included in Table 6 is a new course offered through the National Fire Academy, the Type 3 AHIMT training course.[316] Although this course if offered through the Fire Academy, it is open to all AHIMT members, not just fire personnel.[317] It is a five-day course offered through local delivery and typically hosts only 24 to 40 participants.[318] At time of this writing, the schedule only indicated five offerings for the second half of calendar year 2016 and no offerings for 2017.[319] One of the goals of this course is to "assist individual responders to perform as viable team members by: Demonstrating the goals of NIMS and NRF."[320] Though not specific to any position, the

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[316] "Incident Management Team Development and Training," USFA.

[317] USFA, *Host Agency Guide: Course Setup Instructions, Type 3 All-Hazard Incident Management Team (Type 3 AHIMT)* (Washington, DC: FEMA, 2015), 1, https://www.usfa.fema.gov/downloads/pdf/imt/imt_host_agency_guide.pdf.

[318] Ibid., 1.

[319] "Incident Management Team Development and Training," USFA.

[320] USFA, *Host Agency Guide: Type 3 AHIMT*, 1.

course it is designed for persons serving in specific positions to "develop" and "operate" together by "offering practical experience of on-scene operations through extensive exercises and simulations … by providing students with the opportunity to perform as members of a USFA Type 3 AHIMT."[321] This course gives emergency responders another opportunity to hone their ICS skills and further widens the gap between NIMS compliance training and total available ICS training.

To narrow the scope, we will examine the operations section only. The operations section functions will be completed at every incident, even if the operations section chief position itself is not staffed, as the operations section is responsible for managing the tactical operations at an incident.[322] Comparison of only the operations section through incident command reveals drastic differences in training completion. To fully show the possible discrepancies, Table 7 factors in the difference between overall minimum ICS training. The overall total in Table 7 (546) differs from the overall total in Table 6 (530) because it factors in the difference in ICS 100 (9.5 hours) and 200 (12.25 hours) training completion in the classroom setting as opposed to online (3 hours each).

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[321] Ibid.

[322] FEMA, *ICS 400 Student Manual*, 2.13.

Table 7.   Operations Section Training Differences

Step	Position	Class	Min. Hours	Cumulative Minimum	Class Hours	Cumulative Hours
1	Individual Responder	ICS 100	3	3	9.5	9.5
2	First Line Supervisor	ICS 200	3	6	12.25	22
		Task Force/Strike Team Leader		6	21	43
3	Mid-Level Management	Division/Group Supervisor		6	21	64
4	Senior-Level Management	ICS 300	16	22	16	80
		Operations Section Chief		22	28	108
		ICS 400	24	46	24	132
		Type 3 AHIMT		46	40	172
5	IC	Incident Commander		46	35	207
		Include all Section Chief and Unit Leader Positions not already included		46	339	546

Reviewing only the operations section reveals a vast difference in levels of training. A local officer directing the on-scene operations of a major disaster can do so with as little as 22 hours of training and remain fully NIMS compliant. The training available for incident team members to complete and serve in this capacity could total as much as 108 hours of training, a difference of 86 hours, or more than two weeks. If any acting incident commander completes the minimum training required for NIMS compliance, it totals as little as 46 hours. An incident commander who completes all available ICS training offered through EMI completes 546 hours of training, a difference of 500 hours, or 12.5 weeks of training. These numbers only include the training hours for these programs; they do not include the time for immersion and evaluation required to complete the task books associated with these positions.

d.   *Position-Specific Certification*

The All-Hazard Incident Management Team Association (AHIMTA) is a grassroots nonprofit organization that has developed and posted a sample guideline for emergency responders to train, learn, and ultimately certify for specific positions in the incident command system, called the Interstate Incident Management Team Qualification System (IIMTQS) Guide.[323] While the AHIMTA has no authority in any level of government, it is a think tank of experienced ICS practitioners that developed this guide from the best practices of NWCG and adapted them to the all-hazards environment.[324] Included in the certification process are not only successful completion of the position-specific course training and written exam, but also the completion of position-specific task books.[325] A position-specific task book is a written performance measure of the student's abilities to complete the tasks necessary for each ICS position. Each task is specifically listed and it is indicated in the book if the student must perform the task on an incident, planned event, scheduled training, or what is classified as a rare event. Each task requires two signatures for certification, attained from qualified individuals while directly observing the candidate's behavior. The first signature is attained from a coach evaluation indicating that the student performed these tasks under their supervision. The second signature must be obtained from a final evaluator who observes the candidate's behavior without assisting the candidate.[326] This direct measurement of results adds significant commitment to credentialing an individual to serve in one of these positions, assuring the student truly grasps and can effectively function within the position.[327] This time is not included in significant training differences already outlined.

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[323] "IIMTQS Guide Final," All-Hazards Incident Management Teams Association (AHIMTA), accessed October 9, 2016, http://ahimta.org/resources/May%202016%20IIMTQS%20Guide%20Final.pdf.

[324] "IIMTQS Executive Summary, April 2015," AHIMTA, accessed October 9, 2016, http://ahimta.org/Resources/Documents/IIMTQS%20Exec%20Summary-Apr2015.pdf.

[325] "IIMTQS Fact Sheet, Feb. 2015," AHIMTA, accessed October 9, 2016, http://ahimta.org/Resources/Documents/IIMTQS%20Fact%20Sheet%20Feb%2015.pdf.

[326] AHIMTA, *Interstate Incident Management Team Qualifications System (IIMTQS) Guide*, (Golden, CO: AHIMTA, 2016) 33–35.

[327] Kirkpatrick and Kirkpatrick, *Evaluating Training Programs*, 64–65.

Referring back to the review of basic NIMS/ICS training, the current incident management understanding is that new leaders are ready to lead after as little as six hours of training for front-line officers and 46 hours for incident commanders.[328] Can we expect the incident managers to truly be prepared to assume any role in ICS with as little as 46 hours of training? As outlined previously in Figure Table 5, the EMI position-specific training program would indicate much more training should be attained.

The AHIMTA-advocated certification process follows several of the steps Gabarro's research identified.[329] It includes an extensive process of training that takes a significant amount of time to complete, involves specializing in certain areas as opposed to becoming an "all-purpose" manager, and advocates taking hold of the position and immersion.[330] The position-specific training courses offered by EMI do not attempt to cover the entire ICS process and the responsibilities of every section in a short period of time. For example, the incident commander course is designed to be five days (40 hours) long.[331] The class assumes that the student already has a general understanding of ICS and completion of at least ICS 100 through ICS 400, and has served in other functional positions on IMTs.[332]

The "position-specific" title of these classes is apt, as they deal with the responsibilities of only one position. For example, the resource unit leader position course is 3.5 days long and covers only the responsibility of the resource unit leader, who operates under the planning section chief.[333] Included in the AHIMTA certification process is not only completion of the training, but immersion into the system; students are issued task books to be completed so they can be observed before being authorized to handle an incident in that position.[334]

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[328] This is the total hours of ICS 100-400 courses as noted previously in Table 6, "ICS Training Hours Comparison."

[329] Gabarro, *Dynamics of Taking Charge*, 7; AHIMTA, *IIMTQS Guide*, 33–37.

[330] AHIMTA, *IIMTQS) Guide*, 33–37.

[331] FEMA, *NIMS ICS All-Hazards Incident Commander: Instructor Guide*, 0.5.

[332] Ibid., 0.3.

[333] Ibid., 1.10–11.

[334] Ibid., 35–37.

The entire process is time consuming, as the student must complete the in-class time (as required for the specific class) and complete the position task books at an incident or event. This overall time can vary dependent upon how long the actual event lasts. The frequency of incidents has been a limiting factor for the completion of task books, so the AHIMTA process was adapted to allow certain exercises and pre-planned events, such as a large public gathering where an IMT is needed, as qualifying events for task book completion.[335]

e.   *Summary*

Completion of the position-specific training requires quite a bit of time and commitment. Now that these programs are released, it is clear how much training and experience are necessary to truly understand and implement the general staff positions (operations, planning, logistics, and administration/finance) of the ICS system, and the responsibility of each individual position within ICS.[336] Trying to create the "all-purpose" manager, as Gabarro indicates, could be a recipe for disaster.

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[335] AHIMTA, *IIIMTQS Guide*, 56–60.

[336] The courses are currently being offered in residence at EMI and as local delivery. The schedule of classes can be found at https://www.firstrespondertraining.gov/ntecatalog/EMI.

IV. ANALYSIS

DHS still promotes preparedness as "the shared responsibility of our entire nation."[337] Some of the mechanisms used to reach this goal—such as NIMS and ICS implementation—may still be valid. Critical consideration must be given to what is expected of first responders during the initial response, and how their actions will integrate and contribute to the ultimate incident resolution.

Local agencies respond and mitigate most incidents.[338] The point of concern is incidents that extend beyond one operational period or are large enough that they require various resources from differing agencies to work together. Of particular concern is the timeframe during which initial resources are taxed beyond their limits and additional help has not yet arrived. The five questions in the previous section indicate that a problem lies with responders understanding the system and their role within the system as it is initiated and transitioned. The root cause of this confusion appears to lie with responder training.

Of specific concern is ICS training's failure to adequately address the initial response and the chaos that can prevail. The ICS 200 curriculum covers initial response with one slide in the course.[339] Perhaps this lack of detail is because ICS' teaching does not effectively address this situation and these operations for all incidents. Christopher Bellavita explains the complication with trying to utilize standard means to address unusual situations:

> For the routine problems practitioners encounter, they can use their discipline's "normal science," tested and proven behaviors that reflect successful solutions to similar problems. This approach works as long as practitioners face "tame problems," situations characterized by relatively well-defined problems, obvious stopping points, and solutions that can be objectively judged as right or wrong. The strategies are less effective for "wicked problems": ambiguously defined situations generated by nested

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[337] Department of Homeland Security, *National Preparedness Goal*, 1.

[338] Department of Homeland Security, "National Incident Management System Refresh," 20.

[339] FEMA, *ICS-200 Instructor Guide*, 4.15.

social and political complexity, disagreements about what a solution looks like, and so on.[340]

While many believe all the answers lie within ICS, there are those who see deficiencies in the system for every response. As Bellavita articulates:

> Some people believe the incident command system and its National Incident Management System extension should be the foundational model for all incident response. The National Response Framework holds a similar position as disciplinary exemplar. Both models provide general solutions to a broad set of problems; they do not provide inviolate rules.[341]

Does the statement "both models provide general solutions to a broad set of problems," advocate for the "flexibility" promoted throughout the ICS curriculum? Has "flexibility" become a catchphrase in training that is not being exercised? Or is it simply lost because the training is rushed in order to check a box, claim compliance, and keep the federal dollars coming?

Current FEMA ICS literature values standardized structures regardless of the consistently taughted flexibility in the training. The flexibility of ICS seems to be disappearing in exchange for a system that first responders are finding difficult to apply to their specific situations.[342] Evidence of this change is present in the fact that the FEMA Form 201[343] is already partially completed with the general staff positions indicated.[344] It is possible having these positions indicated on the form is confusing responders, who who then try toengage the planning cycle and general staff positions when they should be simply worrying about the completion of operations and tactics.

Further evidence of narrowing of scope is present in the newest release of the National Engagement draft of the National Response Plan. This document more narrowly

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[340] Christopher Bellavita, "Changing Homeland Security: In 2010, Was Homeland Security Useful?" *Homeland Security Affairs* 7, no. 1 (2011): 4.

[341] Ibid., 3.

[342] Hildebrand "Coerced Confusion," 278.

[343] See Appendix.

[344] FEMA, *NIMS ICS Forms Booklet*, 8.

explains that the span of control "should range from three to seven subordinates, with five being optimal."[345] As pointed out by reviewers in the open comment period:

> The manageable span of control language needs to be changed regarding large law enforcement operations. Language in NIMS 2008, page 47 states 8–10. Law enforcement OFTEN has span of control on large scale incident and events more than 3–7. Many law enforcement agencies at events, incident or day to day operations very often operate with more than that span of control. Agencies just don't have the funds to pay for that small of a number. Actually, this should be increased for law enforcement to 10–12. Many civil disturbance squads have at least 10–15 members on the squad.

> To (sic) many people get hung up about the 3 to 7 when there are many factors influencing span of control.[346]

The change was clear to several respondents, who also noted that the full document was not consistently changed; some parts still matched the previous language. The chart on page 20, line 661 of the document put the span of control at 1 to 8, and the glossary on page 70 put the span of control "between 1:8 and 1:10 for many large-scale law enforcement operations," matching language from the 2008 document and creating confusion in the new document.[347] Aside from flexibility, this also seems to go against the need for discipline diversity taught throughout the position-specific classes.

The diagram in Figure 5 is very familiar to anyone who has taken a position-specific class, as it routinely shows up in the curriculum.

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[345] Department of Homeland Security, "National Incident Management System Refresh," 10–11.

[346] "NIMS Comments Received by FEMA," FEMA, accessed August 14, 2016, 43, http://www.fema.gov/nims-comments-received-fema.

[347] Department of Homeland Security, "National Incident Management System Refresh," 20, 70; "NIMS Comments Received by FEMA," FEMA, 43.
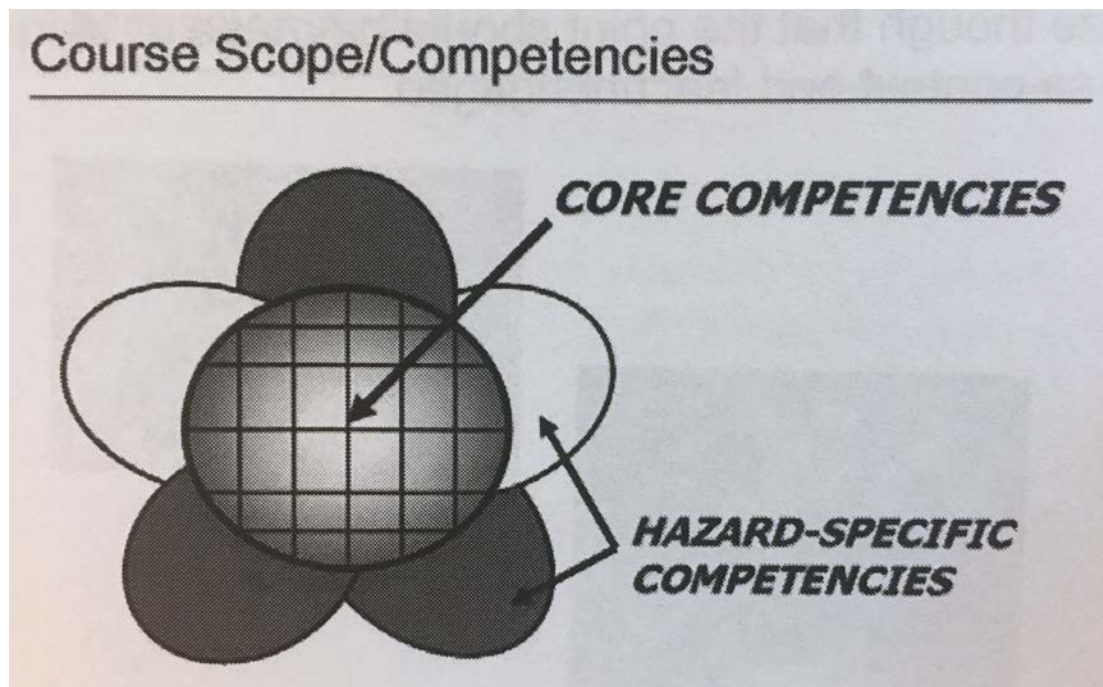
Figure 5. Core Competencies Flower Diagram[348]

This graphic is know known as the Core Competencies "Flower Diagram" and it is used to represent the need for not only the common core competencies taught by ICS, but for hazard-specific competencies.[349] This diagram seems to indicate the need for diversity and flexibility as much as the need for core concepts.

A.   INDIVIDUAL AND ORGANIZATIONAL TRAINING RESPONSIBILITY

If organizations or individuals fail to plan and do not choose to incorporate IMTs to manage their incident, they retain full risk by default. This strategy is usually the last step in any risk management strategy.[350] Applied to incident response, this indicates that the agency head determines they or a representative from their agency will retain overall command and overall responsibility of an incident through initial response until ultimate incident resolution. Whether the agency chooses ICS or another risk management strategy, it makes a significant commitment to aggressively plan ahead for not only

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[348] Source: FEMA, *NIMS ICS All-Hazards Incident Commander: Instructor Guide*, 1.18.

[349] Ibid.

[350] Hubbard, *Failure of Risk Management*, 27.

routine job responsibilities, but the potential chaos and emerging threats that our world now presents. In order to be prepared to handle disasters, they must have a mastery of their own chosen profession.[351] Moreover, they not only must direct their agency, they will also have to work proactively with different organizations. Right now, DHS has determined this tool to be ICS under the NIMS framework. Therefore, if an individual wants to step up and be the leader of his or her organization, and assume the risks of whatever may come, he or she must have made a commitment to understand the tool that other agencies will be using.

Taking responsibility and training for a full incident response takes significant time and commitment from multiple personnel and cannot be taken lightly. A lack of training was cited as one of the failures in the Louisiana Katrina response[352] Gabarro indicates that managers in private industry need two to three years to learn and understand leadership positions.[353] As the following quote expresses, committing to a new learning path is often difficult and requires commitment:

> Our brain has not evolved to the point where the new systems that make complex thinking possible can easily control the old systems that give rise to our base needs and motives, and emotional reactions. This doesn't mean that we're simply victims of our brains and should just give in to our urges. It means that downward causation is sometimes hard work. Doing the right thing doesn't always flow naturally from knowing what the right thing to do is.[354]

EMI position-specific training currently outlines up to 546 hours of classroom training.[355] This number does not include time to complete task books as well as discipline-specific training, such as the fire services' CCIO courses. It certainly includes more than the 46 hours of training currently required by NIMS. Retaining full risk may not be practical for smaller organizations or organizations with high personnel turnover, particularly when trying to learn the entire system. Regardless, it is the responsibility of

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[351] FEMA, *ICS-200 Instructor Guide*, 2.37.

[352] Hayes, "Failing to Establish a Unified Command," 3.

[353] Gabarro, *Dynamics of Taking Charge*, 57.

[354] LeDoux, *Synaptic Self*, 323.

[355] Refer to chart in Table 7.

all responders and initial leaders to complete the initial 100-level basic and 200-level training as the starting point for ICS.[356]

B. NIMS ICS TRAINING RESPONSIBILITY

The responsibility to deliver the NIMS training lies with FEMA. Training is completed through EMI and the USFA in compliance with the National Training Program as required by the Post-Katrina Emergency Management Reform Act of 2006.[357] While the position-specific training programs were designed for members serving on IMTs, it remains the responsibility of all to attain at least ICS-100 and ICS-200 training.[358] Regardless of what level emergency responders ultimately attain in their ICS training, their education begins with these two initial courses.[359] Utilizing the Kristin Darken education analysis adaption of the Heilmeier Catechism, the ICS training system is examined in the following subsections.[360]

1. Who Is the Audience?

Developing one training method for ICS is an ambitions task, because the audience includes all "departments and agencies at all levels of government, nongovernmental organizations (NGO), and the private sector."[361] The NIMS training document specifically identifies the audience as follows:

> The NIMS Training Program is intended for emergency management officials and administrators responsible for budgets, planning, and procurement, who require guidance on the development and provision of NIMS training. In addition, the NIMS Training Program is an informative guidance document for the following:
>
> - National and State policy-makers (elected/appointed officials)

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[356] "Incident Management Team Professional Development and Training," USFA.

[357] "Training," FEMA, accessed November 18, 2016, https://www.fema.gov/training-0.

[358] "NIMS ICS All-Hazards Position Specific Training Program," FEMA.

[359] Ibid.

[360] Kristin Darken presented the method to the Naval Postgraduate School's Center for Homeland Defense and Security All Hands Meeting on February 2nd, 2010 in Monterey, CA.

[361] "NIMS Doctrine Supporting Guides & Tools," FEMA, accessed November 18, 2016, https://www.fema.gov/nims-doctrine-supporting-guides-tools.

- Key decision-makers from governmental and nongovernmental agencies and private sector organizations, such as:

- Federal departments and agencies

- State, tribal, and local government emergency management agencies and trainers (i.e., State, tribal, and local NIMS Coordinators)

- Managers overseeing those in mission-critical positions and organizations and professional development

- Human resource managers setting and overseeing personnel policies and guidance

- Other groups charged with developing NIMS-related guidance or training, credentialing, or personnel qualifications information[362]

The United States hosts a population of 321 million in an area of 3.5 million square miles and divided by 50 different states.[363] There are more than 1.1 million firefighters serving in more than 30,000 different fire departments and more than 1 million police officers serving in more than 14,500 different law enforcement agencies.[364] These numbers do not include NGOs, elected officials, or other branches of government. When developing one training program for such a large and diverse audience, one must understand that "every organization form has distinct strengths, distinct limitations and applications in which it is specifically appropriate … an organizational structure is not an end in itself, but a means of making people productive when working together."[365] FEMA has begun offering ICS courses designed for specific fields, such as IS-100.HE "Introduction to the Incident Command System for Higher

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[362] Department of Homeland Security, *NIMS Training Program*, 3.

[363] "Quick Facts: United States," United States Census Bureau, accessed June 13, 2016, http://www.census.gov/quickfacts/table/PST045215/00.

[364] Hylton Haynes, *Number of Fire Departments in the United States by Population and by State, 2012–2014* (Quincy, MA: National Fire Protection Association, 2016), 4; "Full Time Law Enforcement Employees," FBI, accessed November 23, 2016, https://ucr.fbi.gov/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/tables/table_74_full-time_law_enforcement_employees_by_population_group_percent_male_and_female_2011.xls#overview.

[365] Sheard and Kakabadse, "From Loose Groups to Effective Teams," 133.

Education," with the overall objective to keep all personnel operating under the same core concepts.[366]

2.   What Is NIMS Trying to Accomplish?

The stated goal of the NIMS ICS training program is to get all personnel utilizing the emergency management system; it was intended to be applicable to all disciplines and all hazards.[367] Ideally, the goal would be for the training program to conceptualize the learning and actually change an organization's culture to allow for adoption of unified response.[368] Changing organizational culture, however, is not an easy task.

> Culture is the collective/shared value or perspective adopted or practiced by the people in a certain country or region. The members of society utilize cultural values and conventions to cope with their world and with one another, and the elements of culture are transmitted to later generations through socialization and learning. It is a fact that culture and cultural institutions have an enduring resilience. As such, the values and practices of a certain culture will not be easily affected or transformed despite being subjected to the forces of external change. The effects of traditional culture towards learning activities are still deeply entrenched in spite of the growing prevalence of new ways and modes of learning.[369]

Completion of a course is one step in the learning process.[370] Changing culture and getting people to change is an in-depth process.[371] Only one part of this goal will be achieved if the iterative process of evaluation is absent and subsequent ongoing program change does not occur as a result of learning achievements or failures.

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[366] "ISP Courses," FEMA, accessed November 23, 2016, https://training.fema.gov/is/crslist.aspx?page=3; Department of Homeland Security, *NIMS Training Program*, 7.

[367] Department of Homeland Security, *NIMS: Training Program*, 2.

[368] Longenecker and Abernathy, "The Eight Imperatives," 31.

[369] Bing and Ping, "Comparative Analysis," 12–13.

[370] Kirkpatrick and Kirkpatrick, *Evaluating Training Programs*, 22–38.

[371] Bing and Ping, "Comparative Analysis," 12–13.

3.   What Strategies Work Best?

Although the initial ICS training can be completed in the traditional classroom setting, FEMA also adopted an online platform.[372] Although this program has ensured mass personnel complete the courses, it does not ensure true learning and organizational change.[373] The online training is not an interactive distance-learning program that utilizes active instructors or engages peer and group interaction.[374] These social contexts of training are critical components of the adult learning process[375] and this concept is even referenced in the NIMS training guide:

> The [national integration center] encourages a varied composition of students for each of the courses offered in the NIMS core curriculum. Integrating personnel from multiple disciplines greatly enhances students learning experience in training, exercises, and professional development for incident response. This allows those from a single discipline to learn lessons from students from different disciplines, potentially creating a more well-rounded understanding of the course material. Stakeholders and instructors should optimize learning environments to include multiple disciplines.[376]

The ICS online courses are streamlined, making them practical for quick and easy completion, but do not engage these components when completed in this format. If the goal is course completion, this simple online strategy is very effective. If the goal is to develop "ICS core competence" and affect organizational cultural change and universal program adoption, a more in-depth strategy is required.[377] This strategy should include "learning, unlearning, and relearning" by engaging the students with active instructors and immersing them in the social learning environment with peers.[378] These goals are clearly addressed in the ICS training guidance:

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[372] "ISP Courses," FEMA.

[373] Clarke, "Emotional Intelligence," 135.

[374] Ping "Students' Interaction," 69.

[375] Rincón-Gallardo and Fullan, "Essential Features," 16.

[376] Department of Homeland Security, *NIMS Training Program*, 3.

[377] Ibid., 7.

[378] Davis, "Social Complexity Theory," 127.

Adult education courses are most effective when instruction incorporates the following general principles:

- Engage adult learners as active, self-directed participants in their own learning

- Recognize factors that motivate adult learners; design courses and adapt instructional style accordingly

- Identify the relevance of the course to student work environments, since relevance motivates students and makes it easier for them to comprehend the material presented

- Acknowledge adult learners' accumulation of diverse professional experiences and aspirations and use this experience in context

- Deliver instruction in a safe, collaborative environment

- Provide opportunities to critically reflect upon and immediately apply new learning in order to transfer that learning into habitual practice[379]

Appropriate engagement may help students overcome the roadblocks to learning, find value in the information, and begin the transformative process.[380] This level of engagement does not appear to be occurring in the current online courses.

4.   How Can Effectiveness be Gauged?

NIMSCAST was the tool being utilized to measure ICS compliance, but it only measured if agencies and individuals completed training, not if the system was utilized.[381] If ICS will continue to be the management tool of incident response, it is critical to gain a better understanding of how agencies are utilizing this tool. Most agencies already employ a national reporting and statistics-gathering resource that could be utilized to examine NIMS and ICS implementation without creating a new or separate reporting system. Police have been utilizing the Uniform Crime Reporting (UCR) Program since 1929.[382] The fire service has similarly used the National Fire Incident

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[379] Department of Homeland Security, *NIMS Training Program*, 4–5.

[380] Longenecker and Abernathy, "The Eight Imperatives," 31–32.

[381] Hildebrand, "Coerced Confusion," 277.

[382] "Uniform Crime Reports," FBI, accessed August 21, 2015, https://www.fbi.gov/about-us/cjis/ucr/ucr.

Reporting System (NFIRS) since 1976.[383] These systems are not without faults; however, it is important to note that NFIRS not only receives reports of 1,000,000 fires annually, but also receives reports of 22,000,000 other emergency events.[384] EMS have been utilizing a national reporting system called NEMSIS (National Emergency Medical Services Information System) since 2001.[385] The UCR and NFIR systems have proven very effective tools for gathering data, not only for their respective services, but also for other agencies. As an example, the Consumer Product Safety Commission has utilized NFIRS data to issue numerous product recalls.[386]

There is an inherent difference between these systems and working ICS documents. The national reporting systems are intended to record data after the event, while most ICS documents are designed to facilitate completion of tasks during the incident.[387] However, the national reports can be utilized to gather data to determine if ICS forms were utilized on a response. Those who have taken ICS-300 ("the course intended for individuals who may assume a supervisory role in expanding incidents") are introduced to the form ICS 201—Incident Briefing.[388] This is the most basic form of an incident action plan. Its intent is for the initial incident commander to record and relay information to the incoming commander on any hazard that involves more than initial responders.[389] NIMSCAST would simply measure how many people had taken ICS-300. NEMSIS, NFIRS, and UCRcan record how many times an ICS 201 form was completed on an incident by simply adding one more question to a report that is already completed for responses. This step could serve as the beginning of a viable measuring process to see if the concepts taught in ICS training are actually employed in the field.

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[383] FEMA, *National Fire Incident Reporting System: Version 5.0* (Washington, DC: Department of Homeland Security, 2015), 3.

[384] "About the National Fire Incident Reporting System," USFA, last modified June 26, 2015, http://www.usfa.fema.gov/data/nfirs/about/.

[385] "History of NEMSIS," National EMS Information System Technical Assistance Center, accessed August 21, 2015, http://www.nemsis.org/theProject/historyofNemsis.html.

[386] FEMA, *National Fire Incident Reporting System: Version 5.0*, 4.

[387] FEMA, *NIMS ICS Forms Booklet*.

[388] Department of Homeland Security, *NIMS Training Program*, 33.

[389] EMA, *NIMS ICS Forms Booklet*, 8.

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V.   CONCLUSION AND RECOMMENDATIONS

Getting every responder on the same page is an ambitious goal for a nation of this size with such diverse governmental and NGO resources. Emergency responders must understand the commitment they have made to their agency, local populace, and the nation. The nation has determined that the overall incident management structure for all responses is ICS.[390] To honor their commitment, responders should actively and aggressively seek to understand this system; "NIMS stakeholders share responsibility for ensuring the success of the national NIMS training program."[391] This includes training to help responders understand how they fit into the ICS system, not simply to achieve a certificate and NIMS compliance on paper.[392] This may also include a need for humility, and for understanding when to call in additional help.[393] It may require the significant time and commitment of advanced-level ICS training and certification. There is validity to the argument that NIMS/ICS must continue to recognize and maintain its flexibility to be considered a viable tool for all-discipline and all-hazard responses. However, practitioners must understand that the reason the flexibility should remain in the program is to give them and their organizations a transition point to incorporate into larger systems and responses.

If FEMA wants to institutionalize the core ICS concepts nationwide, it should follow its own advice that: this goal cannot simply be achieved through delivery of training only.[394] Training must be effective and, to be so, it must incorporate the social interaction critical to adult learning and referenced in the ICS training guidance.[395] Currently, the first two ICS classes—the foundational ICS training—offer an online learning path that excludes the social interaction critical to the adult learning process.

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[390] Department of Homeland Security, "National Incident Management System Refresh," 3.

[391] Department of Homeland Security, *NIMS Training Program*, 4.

[392] Ibid.

[393] Longenecker and Abernathy, "The Eight Imperatives," 31–32.

[394] Department of Homeland Security, *NIMS Training Program*, 3.

[395] Ibid., 4–5.

One of the bullets in NIMS training program guidance clearly puts significant onus upon the individuals, stating they should be "active, self-directed participants in their own learning."[396] However, it also rests a significant portion of the responsibility on FEMA to "deliver instruction in a safe, collaborative environment."[397] The current, static online courses do not engage peer collaboration.

This lack of socialization is further problematic as the NIMS training guidance suggests the need to "recognize factors that motivate adult learning … design courses and adapt instructional style accordingly [and] … provide opportunities to critically reflect upon and immediately apply new learning in order to transfer that learning into habitual practice."[398] As identified earlier in this thesis, an important component to adult learning is social interaction with the instructor and peers in the group. At this time, the social environment is not present in the practiced online delivery method. FEMA should give serious consideration to reevaluating the delivery methods of these courses. If it is still desirable to offer the online format to make distance delivery possible and attainment of the training practical for all learners, then the format of these courses must change from static delivery methods with a simple test to dynamic environments that still engage live instructors and peer interaction.

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[396] Ibid.

[397] Ibid.

[398] Ibid.

APPENDIX. ICS FORM 201: INCIDENT BRIEFING

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

4. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment):

5. Situation Summary and Health and Safety Briefing (for briefings or transfer of command): Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.

6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 201, Page 1   Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

7. Current and Planned Objectives:

8. Current and Planned Actions, Strategies, and Tactics:

Time:	Actions:

6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 201, Page 2   Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

9. Current Organization (fill in additional organization as appropriate):

```
                    Incident Commander(s)          Liaison Officer

                                                   Safety Officer

                                                   Public Information Officer

  Planning Section Chief   Operations Section Chief   Finance/Administration   Logistics Section Chief
                                                      Section Chief
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6. Prepared by: Name: _____ Position/Title: _____ Signature: _____
ICS 201, Page 3   Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

10. Resource Summary:

Resource	Resource Identifier	Date/Time Ordered	ETA	Arrived	Notes (location/assignment/status)
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
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6. Prepared by: Name: _____ Position/Title: _____ Signature: _____
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